JPRS-UHR-85-007

21 March 1985

USSR Report

HUMAN RESOURCES

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LABOR

ENTERPRISE ACCOUNTABILITY FOR ON-THE-JOB INJURIES DISCUSSED

Moscow KHOZYAYSTVO I PRAVO in Russian No 10, Oct 84 pp 85-89

[Article by Yu. Korshunov, candidate of jurisprudence, honored lawyer of the RSFSR: "Material Responsibility of Enterprises for Damage Caused to Workers and Employees by Harming Their Health"]

[Text] According to Article 67 of the Fundamentals of Labor Legislation, enterprises, institutions and organizations, in keeping with legislation of the USSR and the union republics, are materially liable for damage caused to workers and employees because of injuries or other harm to the health related to the performance of their job duties.

The rules for reimbursement by enterprises, institutions and organizations for damage caused to workers and employees by injuries or other harm to their health which is associated with their work, rules approved by the Goskomtrud [State Committee for Labor and Social Problems] and the AUCCTU of 22 December 1961, regulated far from all issues. Many of them were resolved in keeping with the clarifications of the Goskomtrud and the AUCCTU for specific disputes, and also taking into account judicial practice.

The decree of the USSR Council of Ministers of 3 July 1984 established new rules for reimbursement by enterprises, institutions and organizations for harm caused to workers and employees by injuries or other damage to their health related to their performance of their labor duties. These were put into effect as of 1 January 1985 and regulate conditions of responsibility of the organizations for harm caused and the policy for determining the amount of harm that is subject to reimbursement, and they also establish the individuals who have the right to reimbursement. The rules fully correspond to Article 91 of the Fundamentals of Civil Legislation, according to which if a worker because of the performance of his labor (job) duties has sustained injury or some other harm to his health by the fault of the organization which is responsible for paying his contributions to state social insurance, this organization must make reimbursement for the harm that has been caused.

If the harm has been caused to the worker outside the territory of the organization, the latter is responsible only if the person who sustained the injuries had been performing his job duties there (postman, driver and so forth) or he was acting on an assignment from the administration or the

manager of his job (brigade leader, foreman, chief of shift, section and so forth).

According to the rules of 22 December 1961, the administration was responsible for harm to the worker for which it was to blame during the time of travel to and from work on transportation belonging to the enterprise. The rules of 3 July 1984, based on the principle of responsibility of the administration for harm caused to the worker while performing his labor duties, established that in the event of injury or other harm to the health sustained by the worker or employee during his travel to or from work on transportation offered to the organization, it bears material responsibility to the worker who has suffered, but not on the basis of Article 91 of the Fundamentals of Civil Legislation, but according to Article 90 of these fundamentals.

This considerably expanded the legal guarantees of the workers and employees when their health was damaged. Article 90 envisions that the organization and the citizens whose activity entails increased danger for those around them (transportation organizations, industrial enterprises, construction sites, owners of motor vehicles and so forth) are obligated to make reimbursement for harm caused by the source of increased danger if it is not proved that the harm resulted from an insurmountable force or by the design of the person who suffered. In other words, the very fact of traveling to and from work on transportation offered by the enterprise is justification for the responsibility of the organization with random (not at the fault of the organization) causes for harm, while in cases of causes of harm when performing job duties (on the territory of the enterprise or outside it) the enterprise is responsible only for the harm for which it was to blame.

According to the general rule, all accidents which have taken place on the territory of the organization or outside it, including on transportation offered by the organization, are taken into account by the organization which employs the worker who has had the accident. Thus even under circumstances where it has not been established that the organization is to blame for an accident during travel on transportation belonging to it, the fact of the labor injury is to be investigated, the accident is accounted for and the document N-1 is filled out, as though this were an incident associated with production.

The rules of 3 July 1984 do not contain the general concept of the guilt of the enterprise, since establishing it depends on a number of concrete circumstances. Here one should first of all be guided by an analysis of the situation in which the accident took place.

The Fundamentals of Labor Legislation (Article 57) make it incumbent upon the administration of the enterprise to provide for healthful and safe working conditions in production. The administration is obligated to introduce modern safety equipment which prevents production injuries. And therefore if a labor injury has taken place as a result of the failure on the part of the administration to provide healthful and safe conditions for work, it should be considered that this injury has taken place at the fault of the organization. The reasons for accidents which are the fault of the administration include, for example, keeping the work station in disorder; permitting work on

equipment that is in bad repair or permitting work in unsuitable clothing and without means of individual protection; poor labor discipline; unsatisfactory instruction or poor training in work methods.

Proof of possible guilt of the enterprise, in particular, includes: a document concerning an accident in production (on form N-1); a sentence of the court or a decision of the court, a decree from the procurator or an inquiry or preliminary investigation agency; a conclusion by the technical inspector for labor or other officials (agencies) that exercise control and supervision over the condition of the protection of labor and the observance of labor legislation (concerning the causes of harm to the health); a medical conclusion concerning occupational illness; a decision to impose an administrative or disciplinary fine on the guilty parties; a decree of the trade union committee concerning reimbursement by the organization to the budget for state social insurance of expenditures to pay the worker or employee stipends for the temporary disability because of a labor injury.

This list is exemplary. Other objective proof is also heard, for example, evidence from witnesses. It is important that the proof of the guilt of the enterprise not be included as an obligation for the person who has sustained the injury since, according to the general rule, it is always presumed that the perpetrator of the damage is guilty and he is the one who must prove that he was not at fault (Article 88 of the Fundamentals of Civil Legislation).

The guilt of the enterprise for an injury sustained during the performance of work duties is an indispensable condition for reimbursement for damage. As an exception to this rule, in the event of injury or any other harm to the health of a member of a crew of a USSR aircraft which has taken place as a result of the crew member's performance of his service duties during takeoff, flight or landing, the organization to which the aircraft belongs in terms of operational control or ownership bears responsibility under the policy established by Article 29 of the USSR Air Code. The owner of the aircraft is obligated to make reimbursement for the harm caused to the person (people who have the right to reimbursement because of the death of the crew of a USSR aircraft) if it cannot be proved that the harm was the result of the intention of the person who suffered. In other words, the owner of a USSR aircraft is responsible to members of the crew for harm that is accidental (with nobody at fault).

In both cases when the harm is caused to the worker while traveling to or from work on transportation provided by the organization, the reimbursement is made in keeping with the general rules.

Reimbursement for the damage consists in paying the victim monetary sums in the amount of the earnings (or the corresponding part of them) which he has lost as a result of being disabled or being partially disabled minus the disability pension in connection with the labor injury, and also compensation for additional expenditures caused by the damage to the victim's health.

The amount of reimbursement associated with the loss or reduction of the victim's previous earnings because of the labor injury is determined in percentages of these earnings which correspond to the degree to which the

victim has lost his ability to work. The overall ability to work which is retained is not taken into account when determining the amount of reimbursement, as was the case according to the rules of 22 December 1961. If the worker has lost 100 percent of his ability to work, he has the right to complete reimbursement for damages, equal to 100 percent of the forfeited earnings (minus the pension associated with this damage to the health). The degree of loss of ability to work is determined for the victim by the labor medicine experts commission.

Thus in order to determine correctly the amount of reimbursement for damages, it is necessary to know the amount of the average earnings of the victim, the percentage of loss of ability to work and the amount of the pension assigned in connection with labor injury.

For purposes for calculating the amount of reimbursement for damages one uses the average monthly earnings for the 12 calendar months preceding the labor accident or the time of loss of the ability to work because of the accident (by the choice of the victim). In the case of occupational diseases, at the request of the victim, in order to calculate the amount of reimbursement for damages one can use the average monthly earnings for 12 calendar months before the victim ceases to do the work that causes this disease.

When determining the average monthly earnings, the months during which the worker has actually not worked or has not worked full-time, at the request of the victim, can be excluded from the calculation and replaced by other, directly preceding months. This rule is applied under the condition that the failure to appear at work was the result of a disease, a regular vacation or other factors envisioned by legislation that allow people to miss work. The months during which the worker actually did not work or worked only part-time for other reasons (for example, an authorized absence) are not excluded from the calculation and they are not replaced by other months.

If by the time of the application for reimbursement for damages no documents have been preserved concerning the actual earnings of the victim before he sustained the labor accident, in order to calculate the amount of reimbursement for damage one uses the wages (salary) for the work which was performed by the victim which is in effect at the time of the application for reimbursement for damages.

The earnings take into account all kinds of wages for which, according to existing rules, contributions are made to social insurance, including reimbursement for the overall results of the operation of the enterprise according to the results for the year, percentage increments that are paid from the material incentive fund and the annual remuneration for length of service, additional payments for combining occupations (positions), including for performing the duties of workers who are temporarily absent and for expanding the zones of service or increasing the volume of work performed during the course of a working day (work shift) established by legislation. These earnings do not include: wages for work during overtime or for combined occupations, various kinds of payments of a one-time nature, or additional payments for work that is not included in the duties of the worker or employee in his basic job.

For parties who have sustained labor injury during the period of industrial training (practice) the amount of reimbursement for damage is calculated on the basis of the wage rate (salary) for that occupation (specialty) which the victim was studying (but no less than the second category), and for parties who have earnings during the period of training (practice), at their request--from the average monthly earnings for this period. At the request of the victim the amount of the reimbursement can be calculated on the basis of the average monthly earnings in the job that preceded the industrial training (practice).

If because of a labor injury the victim has been assigned a disability pension, the amount of the reimbursement for the damage is reduced by the sum of this pension. Other kinds of pensions allotted to the victim both before and after the labor accident, when determining the amount of reimbursement for damage, should be deducted only in an amount equal to the disability pension to which the victim has a right because of the labor injury.

EXAMPLE. As a result of an accident in production, a worker, by the conclusion of the labor medicine expert commission, has lost 40 percent of his ability to work. His average monthly earnings before the injury amounted to 160 rubles. Additionally, he received an old-age pension of 105 rubles. Because of the given labor injury the victim could obtain a disability pension of 38 rubles, but he preferred to receive the old-age pension. The amount of reimbursement for the damage is determined in the following way. Since the old-age pension is not counted, the victim has the right to obtain his lost earnings (64 rubles) minus the sum of the disability pension due to him (64 rubles - 38 rubles = 26 rubles). If in this example the worker had been assigned an old-age pension after the injury, the only part of it that would have been subtracted would have been the part equal to the disability pension (according to the rules of 22 December 1961, the old-age pension that has been allotted and actually received after an injury was to have been fully deducted).

In cases where the victim's disability pension, which has been allotted before the labor injury took place is increased because of the labor injury and not for any other reason, the sum by which the pension is increased must also be deducted when determining the amount of reimbursement of damages.

If the labor injury was not the fault of the organization but the result of gross carelessness on the part of the victim, the amount of reimbursement for damage should be reduced, depending on the degree of guilt of the victim. Gross carelessness is established in exceptional cases, taking into account a whole number of concrete circumstances under which the worker violated the rules for labor safety. One takes into account the situation in which the harm was caused, the condition of the victim's health, the degree of his occupational training, his age and so forth. According to judicial practice, if the victim is intoxicated at the time the harm is caused to him it can be considered gross carelessness. But even in these cases, in order to apply joint responsibility it is necessary for there to be a cause-and-effect relationship between the intoxicated condition of the victim and the damage to his health. But if his drunkenness was the only reason for the accident, then

the accident is not considered to be associated with production and the victim does not have a right to be reimbursed for damages.

In view of the fact that the enterprise is responsible for any degree of guilt and the guilt of the victim is taken into account only if he is grossly negligent, the guilt of the enterprise is determined, as a rule, in a greater percentage than the guilt of the victim himself.

EXAMPLE. As a result of an accident in production a worker, by a conclusion of the labor medicine expert commission, has lost his ability to work by 60 percent. He has been assigned to Group III of disability and been given a pension of 34 rubles. His average monthly earnings before the injury amounted to 120 rubles. The sum of lost wages is equal to 72 rubles (60 percent of 120 rubles). The victim should be granted 38 rubles (78 rubles minus 34 rubles) as reimbursement for damages.

Let us say that in the aforementioned case there was gross negligence on the part of the victim. The administration, taking into account the conclusion of the commission on labor safety of the trade union, has determined the degree of guilt of the victim to be 20 percent. The sum of earnings he has lost is reduced by 14 rubles and 40 kopecks (20 percent of 72 rubles) and amounts to 57 rubles, 60 kopecks (72 rubles minus 14 rubles, 40 kopecks). As reimbursement for damages the victim will be paid 23 rubles, 60 kopecks (57 rubles, 60 kopecks minus 34 rubles).

The victim who has temporarily been transferred, with his agreement, to easier work with less pay is paid the difference between the previous and the new earnings until he is again able to work or it is established that his disability is prolonged or permanent (group of disability). A conclusion concerning the need to transfer the victim to other work, the duration of the transfer (up to 1 year) and the nature of the recommendation work is issued by the medical consultation commission (VKK). If the administration does not provide the appropriate work within the indicated period the victim has the right to reimbursement for damages in the amount of his average monthly earnings which he received before he sustained the labor injury.

If as a result of the labor injury the victim can no longer perform his previous job, with his agreement and in keeping with a conclusion of the labor medicine expert commission, the organization is obligated to provide training for him in a new occupation. During the time the victim is being trained in the new occupation, but for no more than 3 months, he is paid his average monthly earnings in his previous job minus his disability pension and his earnings or stipend during the training period. During this period reimbursement sums are not paid.

In the event of the death of the victim, the right to reimbursement for damages is transferred to his dependents who are unable to work or who, at the time of his death, have the right to receive support from him, the child of the deceased who is born after his death, and also a member of his family if this member is not working and is engaged in caring for children, brothers, sisters or grandchildren of the deceased who have not reached 8 years of age (the rules of 22 December 1961 included among people with the right to

reimbursement because of caring for children up to 8 years of age only the parents or the spouse of the deceased). Now the reimbursement is granted regardless of the age or the ability to work of the people who are caring for the children.

An individual who has applied for a reimbursement for damages upon the death of his breadwinner is considered to be a dependent of the victim if he has received assistance from him which was constant and was the main source of livelihood. Additionally, this assistance does not have to be the only source of a means of existence. In these cases it is necessary to proceed from the ratio between the assistance received from the deceased and the additional income.

Individuals who have the right to reimbursement for damages in the event of the death of their breadwinner are paid the damages in the amount of the average monthly earnings of the deceased minus the proportion that went for him himself and able-bodied people who were his dependents that did not have the right to receive reimbursement for damages.

The rules of 3 July 1984 regulate the policy for deducting sums for reimbursement for damages. It has been established that the payment of sums for reimbursement for damages to workers and employees are made by the organization that is responsible for the damages.

In the event of the reorganization or elimination of the organization the payment of sums for reimbursement for damages is made by the legal successor or the higher organization.

Sums for reimbursing damages are paid: (a) to workers and employees who are victims beginning on the day when, as a result of a labor injury, they were deprived of their previous earnings; (b) to parties who have the right to reimbursement for damages because of the death of their breadwinner--from the day of his death, but no earlier than the day of the granting of the right to obtain the sums for reimbursement for damage (for example, the worker died on 13 July. His child was born on 17 September, and from that day he will be paid the reimbursement). When the application for reimbursement for damages is submitted after 3 years after the loss of the previous earnings because of the labor injury or after the death of the breadwinner, the reimbursement for the damages made beginning on the day of the application.

The reimbursement for damages is made to the victim who has lost his earnings during the course of the period for which the labor medicine expert commission has established disability because of the labor injury.

Individuals who have the right to reimbursement for damages because of the death of the breadwinner are reimbursed: for minors--until they reach 16 years of age (students--18 years); for men older than 60 and women older than 55--for as long as they live; for disabled persons--throughout the entire period of their disability; for the parent, spouse or other family member who is not working and is caring for children, brothers, sisters, or grandchildren of the deceased breadwinner, which children have not yet reached 8 years of age--until the children reach 8 years of age.

Reimbursement for damages to the worker or employee who is a victim is made in an amount so that the sum paid along with the appropriate pension, earnings (income) and stipend do not exceed the earnings on the basis of which the sum paid as reimbursement for damages was determined or the subsequently calculated sum.

In the event of a change in the degree of disability of the victim who is receiving payment for this or the amount of the disability pension, and also a change in the composition of family members of the deceased, a corresponding recalculation is done. The delivery and transfer of sums paid as reimbursement are done at the expense of the enterprise. By a request of the recipient, the money can be transferred into an account in a savings bank.

The sums paid as reimbursement for damage are not taxed. This tax benefit applies to sums paid to workers both because of injury and because of occupational diseases, regardless of the group of disability that is established for these citizens. The determination of the percentage of loss of ability to work and, in connection with this, the designation of the reimbursement are an unconditional basis for releasing the paid sums from taxation.

At the same time, additional payments paid to workers and employees up to the average earnings when they are transferred to easier work with less pay because of partial loss of ability to work are a part of the earnings and therefore are subject to the appropriate taxes on the general basis.

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EDUCATION

TRAINING PROGRAM FOR ROBOTICS PERSONNEL OUTLINED

Moscow PROFESSIONAL'NO-TEKHNICHESKOYE OBRAZOVANIYE in Russian No 7, Jul 84 pp 28-31

[Article by B. Cherpakov, doctor of technical sciences, director of the Automatic Lines Department of the Experimental NII [Scientific-Research Institute] for Metal-Cutting Machine Tools (ENIMS), and V. Velikovich, deputy director of the Robotics Department, ENIMS: "Industrial Robots and Robotic Systems: Training of Service Personnel"]

[Text] The instructions of the 26th CPSU Congress and the decisions of the subsequent Plenums of the CPSU Central Committee have given industry the tasks of the comprehensive automation of production in machine-building, primarily series and individual production, which are the ones that are lagging behind worst with regard to the level of automation.

As is well known, the share of the products list for articles of series production has been increasing with every passing year and by now has reached 70 percent of the total articles produced by machine-building.

The basic goal in automating series production is to increase labor productivity as well as to reduce heavy, monotonous manual labor by means of the fulfillment in an automatic cycle with the minimal participation of man the processes involved in treating the metals and manufacturing the articles. In order to automate series production it is necessary, as quickly as possible, to use automatic equipment, primarily machine tools, machinery, and units with programmed control which guarantee the changeover to the production of another article in an automatic mode, and, in the best version, without the direct participation of man.

In order to automate the process of loading and unloading this kind of equipment, broad use is being made at the present time of industrial robots.

In addition to the loading and unloading of the technological equipment, where the industrial robots are used as a transporting and loading machine, they are also used for the execution of various production functions, such as arc and spot welding, etc.

Industrial Robot: General Information

In conformity with GOST 25685-83, "Industrial Robots, Terms and Definitions," one understands by the term "industrial robot" an automatic machine that

represents a combination of a manipulator and a reprogrammable device for executing, in the production process, motor and control functions that replace similar functions of man when moving objects being produced and/or technological rigging.

As a result of the large variety of technolcgical machines and units being serviced by industrial robots, a considerable number of designs are in operation. Therefore the creation of industrial robots according to the unit-module principle is an urgent task, the resolution of which will help to assure their effective use in production entities with varying degrees of series production, and also the automation of various technological machines.

In general, an industrial robot consists of a mechanical component -- the manipulator -- which includes the drives, a mechanical manipulation system, a grabbing device, and control systems (Fig. 1). Electronic computers can be employed in the control system for industrial robots. In such instances even the simplest shiftings of the robots can be the result of a complicated algorithm with the use of an electronic computer.

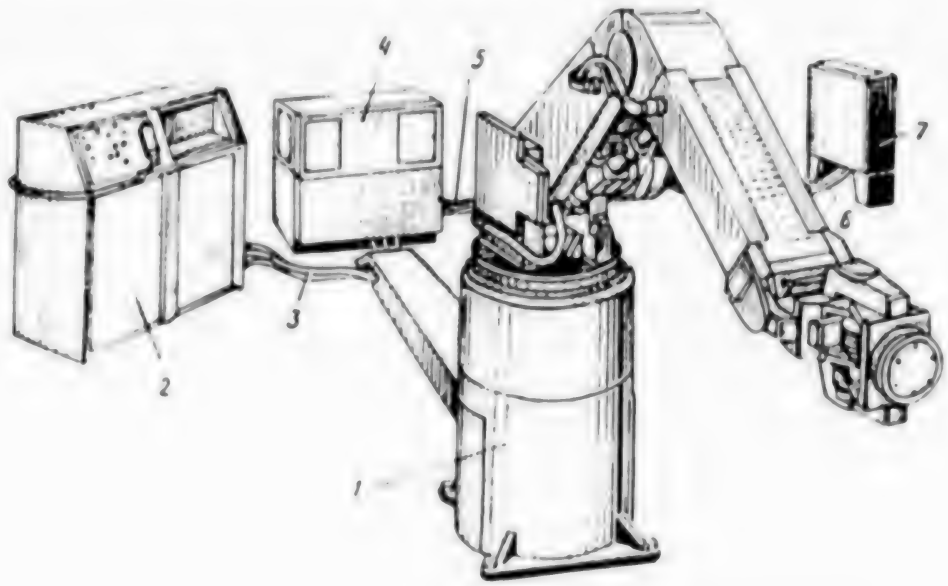

Fig. 1. Structural Diagram of an Industrial Robot

1 - industrial robot
2 - control system
3 - connecting electrical cable
4 - technological equipment
5, 6 - hydraulic conduit
7 - hydro-electric power station

The use of robots for servicing automated equipment makes it possible to create flexible adjustable technological modules, lines, and sectors (machine-tool, casting, welding, assembly, control, etc.). According to their structure, flexible production systems are, to a definite degree, a synthesis of traditional automatic lines (according to the level of automation) and equipment with

programmed control (according to readjustability). And, correspondingly, there is a great increase in the complexity of servicing the equipment that is provided with industrial robots, and in the requirements with regard to the proficiency level of the personnel.

Industrial robots belong to a relatively new type of equipment (the first information concerning them appeared in science fiction in the 1930's, and in technical literature, in the 1960's), a type that is being constantly improved and changed.

At the present time our national economy uses robotic complexes that are equipped with first-generaation and partially second-generation industrial robots. The first-generation robots are machines that are rigidly programmed to execute a definite assigned program of actions; the second-generation robots are provided with definite adaptive elements that provide for the changing of the program of actions on the basis of signals from sensors registering internal and external information.

Within the next few years it can be forecast that various production entities will employ more improved automated systems that completely use all the capabilities of the technological equipment, and third-generation robots. They will provide for the changing of the program of actions on the basis of a change in the immediate environment and signals arriving both from various elements of the equipment being serviced by the robot, and from external sources of information with which the the automated system of controlling the machine tools and the complete set of machines will interact.

The application of third-generation and partially second-generation industrial robots will make it possible to create technological equipment complexes which will provide for three-shift operation with the minimal participation of man during the first two shifts, and with operation in the unmanned technology mode during the third shift.

Peculiarities of Joint Labor of a Worker and an Industrial Robot

Equipment with numerical program control (ChPU) and industrial robots include both complicated mechanical systems, and automatic electric systems, hydropneumatic drives, and modern programmed-control electronic systems with the application of microprocessors and electronic computers, systems for diagnosing the processes and efficiency of the individual assemblies, etc.

The broad application of complicated equipment in the "technological machine to industrial robot" cycle has resulted in the division of the labor performed by the personnel servicing it, with the isolation of the following types of operations: programming; preparation and adjustment of the cutting tool outside the machine tool; technical maintenance and servicing of the equipment; and adjustment of the equipment.

In most instances the programming of the technological process, the machine tool, and the industrial robot is carried out by engineer-technical workers (technologists) and the program preparation bureaus. In recent years methods that have found application have been the methods of the preparation of programs

by highly-skilled adjusters right at the machine tools with time-responsive control systems.

The preparation and the adjustment of the cutting tool for size outside the machine tool are carried out on special stands that are equipped with optical instruments. The execution of this operation provides for the installation of the cutting tool in the machine tool in a definite position relative to the axes of the coordinates. This work is carried out by the cutting-tool worker.

The technical maintenance and operational servicing of the set of equipment constituting the cycle "machine tool to industrial robot" lie in its startup, switching on, the checking of the dimensions of the finished article, and introduction, when necessary, of an adjustment to compensate for the wear and tear of the cutting tool, and also to control the loading and unloading of the magazines containing the blanks and the finished articles.

When readjusting the technological machines and industrial robots for processing another part, one replaces the clamping devices and cutting tools (on technological machines), or the grabbing devices (of an industrial robot), and carries out the adjustment of the individual elements of the technological machines, for example, for machine tools in the lathe group: the rear headstock, the lunettes, and the jaws of the chuck. In order to change the program for controlling a machine tool with digital program control, it is necessary to install in the reader another program-carrier with the required program, or to introduce, by typing in on the control keyboard, another program and to carry out the instruction of the industrial robot. When adjusting the complex, it is necessary to provide for the processing of the first samples of the new part with the assigned precision and productivity.

During the first period of the operation of machine tools with numerical program control and industrial robots, the machine-tool worker carried out only the functions of operational servicing of the equipment and the technical maintenance of the working elements. The functions of programming and adjustment were carried out by the engineer-technical workers, and the functions of preparing and adjusting the cutting tools were carried out by workers in another occupation. Thus, the activity of a worker servicing technological equipment with digital program control and of an industrial robot was more limited, for example, than the labor functions of a worker operating traditional multipurpose machine tools with manual control.

Progress in the development of technological machines with numerical program control and of industrial robots, as well as the rise in the level of proficiency of the service personnel, have made possible the execution of many functions by a single operator, with the involvement -- for purposes of carrying out the especially complicated operations dealing with the programming and adjustment of the systems -- of engineer-technical workers or highly-qualified workers in a definite area of specialization, for example, adjusters specializing in electronic control systems.

Peculiarities of Personnel Training

In order to service equipment that has been provided with industrial robots, the training of qualified workers in schools in the vocational and technical

education system and at industrial enterprises is carried out along two different directions.

First: the training of the adjusters and the operators proper for the servicing of the machine tools with program control and industrial robots (manipulators). Second: the expansion of the professional knowledge and abilities of the workers in the basic machine-building occupations (adjusters, machine-tool operators, fitters for mechanical-assembly operations, repair personnel, etc.) for the possibility of servicing equipment that functions jointly with industrial robots, as well as the repair operations for that complex.

A qualified worker -- operator or adjuster of robotic systems -- must:

-- have a good knowledge of the design of the various types and models of complicated automated equipment designed for various technological purposes, including robotic systems, which are the basis of flexible manufacturing systems;

-- know how to analyze the electrical automation and hydropneumatic drive systems, and the numerical and cyclical program control systems;

-- have the work habits required for programming and operating control systems, including those that have been executed with the application of microprocessors;

-- possess the work habits required for programming the operation of industrial robots, for preparing programs for robotic complexes;

-- know how to adjust, readjust, and slightly adjust all the systems and assemblies of the equipment in the robotic complexes;

-- possess knowledge dealing with the technology of producing the parts and assembling the assemblies;

-- be able to use measurement instruments and cutting tools and handle them properly;

-- possess knowledge pertaining to work safety measures and carry out the monitoring and adjustment of the systems and mechanisms that guarantee the normal operation of the mechanisms and the safety of the service personnel;

-- be able to locate and eliminate any malfunctions that arise in the work process;

-- know the principles of the organization and economics of production, and guarantee efficient conditions for the operation of the equipment entrusted to him.

In order to service robotic systems which at the present time are a new and improved type of equipment, the operator must know how to analyze the operation of the system of machines as a whole, as well as individual types of equipment and functional systems that are part of it (systems for lubricating, for removing the shaving, for bringing in the cutting tools, etc.). He must

accumulate experience in operating the system and the statistics pertaining to the work failures and repairs for all its elements, so that the summarized material, within the confines of feedback, gets back to the engineer-technical workers, making it possible to improve not only the technological processes, but also the design of the equipment and its operation.

As was already mentioned previously, the creation of robotic systems will make it possible within a very short period of time to change over to the organization and broad introduction into industry of flexible manufacturing shops and plants, where the automation of warehousing operations and of dispatcher control operations will be carried out, and where the questions of automating the assembly of articles, as well as other tasks that arise in the process of the comprehensive automation of production, will be resolved.

The broad extension of the work to create complexes such as these and to introduce them into production has been stipulated by the 18 August 1983 decree of the CPSU Central Committee and the USSR Council of Ministers, entitled "Measures for Accelerating Scientific-Technical Progress in the National Economy."

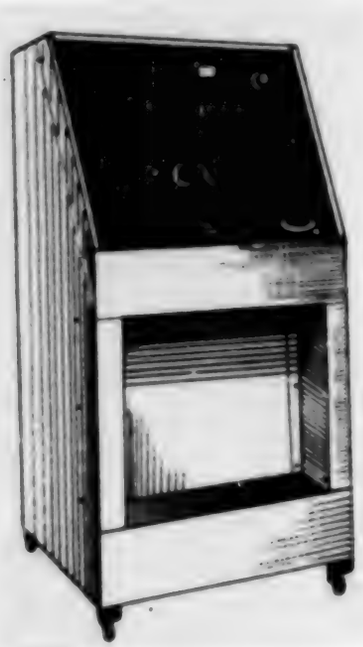

Fig 2. Numerical program control simulator with graphic-dynamic display of the processing process

The tasks of training qualified service personnel for robotic systems and flexible readjustable manufacturing entities are tasks that depend upon many factors and that are extremely serious.

The manner in which, at all levels, including the system of vocational and technical education, the questions of training qualified cadres are resolved will determine the success also of the complete automation of production in the USSR.

In our opinion, the system of training adjusters (operators) for machine tools and manipulators with program control must be constructed in accordance with a two-level scheme: the first stage is the transmittal of the "reference" information to the school; the second stage is the expansion and concretization of knowledge at the base enterprise during the period of production practice.

The training of specialists must be carried out both for the enterprises that employ industrial robots and those that manufacture them. The system for transmitting the "reference" knowledge to the students must be constructed on the basis of teaching the general technical disciplines that expand their technical horizon, and obtaining the necessary practical information from the theoretical fundamental disciplines, such as the special sections of mathematics (programming, mathematical statistics, analytical geometry), sections of probablity theory and automatic regulation theory, the theory of precision and measurement, etc.

How Does One Teach the Future Worker?

In the process of instruction, the students must have the opportunity to study thoroughly such special questions as the theory of machines and machinery, the designing of of machine tools, forge-press, and casting equipment; the systems of digital program control, electroautomation and electronics, and their element base; hydraulic and pneumatic drive; the theory of cutting; cutting and other tools, etc. The subjects taught in the course must include various types of control systems -- closed, open -- that provide for the programming of the trajectory of the displacement of the working element of the robot.

Something that is of fundamental importance is the study of the peculiarities of guaranteeing the safe working conditions for the maintenance personnel. It is necessary to assimilate the installation of protective walkways in the area where the maintenance personnel are moving around, the use of collapsible barriers, as well as the principles of the interaction between man and an industrial robot in various production situations.

The study of the equipment must be constructed in such a way that it will not be orientated at specific models of machine tools, forge-press machines, industrial robots, or other equipment. It is necessary, in the appropriate courses, in accordance with the curricula, to expound the general principles and methodologies of operating the equipment.

Something that is especially important is the teaching of the students of how to carry out the technical servicing of the equipment and the industrial robots for purposes of the rapid detection of work failures and their elimination within a technically substantiated period of time. The teaching of the maintenance personnel of how to service modern equipment must be based on the use of the principles of technical diagnostics. At such time the personnel study the reasons for the failures, the methods for locating them, and means for eliminating them. Within the confines of the instruction of the adjusters of machine tools and industrial robots, as well as their operators, the training must be carried out for the purpose of servicing the mechanical and electromechanical assemblies. The servicing proper of the

electrical equipment and the electronic control systems is the duty of the electrician-adjuster or the electronics specialist.

In order to study such complicated material under school conditions it is necessary to make wide use of the principle of graphic exposition. That principle is achieved by the application of various simulational devices and stands. Fig. 2 represents a simulation device that is used to teach programming, technical servicing, and monitoring of the correctness of adjustment of the cutting tools on machine tools with numerical program control and industrial robots, which device is used by the Traub company (West Germany) for the purpose of training adjusters and operators at its own training center. Lying at the basis of the simulation device is a control system of the CNC type, which is used on turning lathes with numerical program control.

The use of the simulator makes it possible to teach the students the following functions:

-- the programming of the machine tool in a mode of dialogue between the adjuster and the numerical program control system;

-- the construction of an automatic cycle for processing the part from separate standard frames, including the use of subprograms;

-- the automatic setting of the position of the cutting tool, and compensation for the wear and tear of its cutting edge;

-- the monitoring of the correctness of the interaction among the assemblies and mechanisms of the machine tool.

The simulator includes a graphic display that makes it possible to represent the correctness of the processing of the part on the screen (Fig. 3). At such time one can easily see any collisions between the individual assemblies because of errors during adjustment; the depth of removal of the machining allowance, and the contour of the part. The scale and speed of depiction are selected by the instructor or the foreman with a consideration of the instruction methodology that is being used.

Depending upon the specific conditions, the simulation device can be used for operation while the person is sitting or standing.

In the school it is desirable to create a simulation devices lab, and it is also desirable for all the simulators to be switched into the device being used by the person giving the instruction (the instructor, foreman), so that, at any moment, he can verify the result of the instructor, discuss it with the students, and make the necessary corrections. It is possible to connect to this device a large screen (one meter x one meter), which will make it possible to demonstrate the operation of the simulator to a larger audience. After the student receives instruction on the simulator, he changes over to work on a trainer, for use as which one can recommend the most widely used model of machine tools with numerical program control. The instruction can be constructed in such a way that the program on perforated tape, prepared on the simulator, is subsequently set up on the trainer stand.

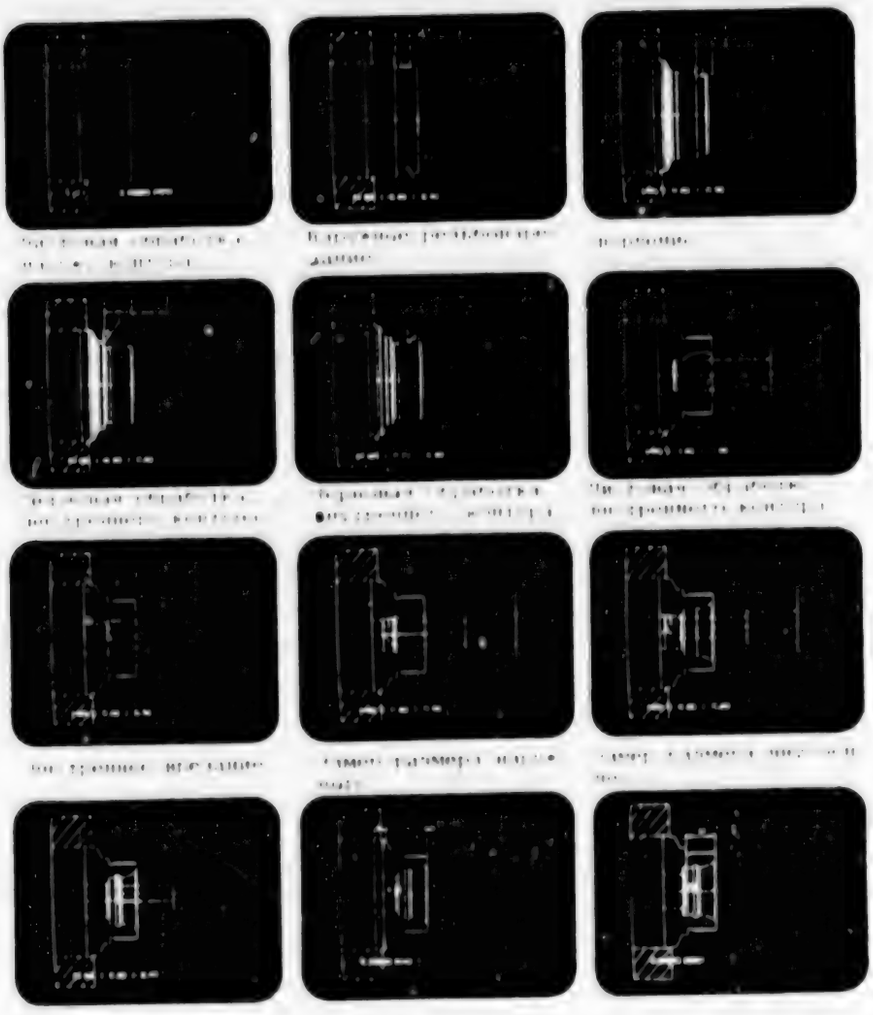

Fig. 3. Graphic depiction of the stages in the processing operation.

[arbitrarily numbered left to right, top to bottom]: 1 -- Blank; 2 -- Roughing out of outside contour; 3 -- Roughing out of outside contour; 4 -- Finishing of outside contour; 5 -- Outside screw-cutting; 6 -- Drilling; 7 -- Roughing out of inside contour; 8 -- Roughing out of inside contour; 9 -- Finishing of inside contour; 10 -- Inside cutting; 11 -- Measuring of outside dimension; 12 -- Measuring of inside dimension.

Special attention should be devoted to the production training and practical work by the students at the base industrial enterprises. For this purpose it is necessary to use a modern material base at the production sectors. Production training should be carried out only on machine tools, industrial robots, and robotic complexes of modern models and under conditions when the students can, in the practical situation, study all the questions linked with the design, servicing, repair, adjustment, and operation of those systems.

The content of the production training and practical work must be oriented toward the specific technological processes and specific equipment on which

the student at the vocational and technical school will subsequently be working. It is only well-trained adjusters and operators who can guarantee the completely valid use of the capabilities of the machine tools and the industrial robots with program control.

The expansion of the professional knowledge of the workers in the basic machine-building occupations should be carried out by studying industrial robots in the course "Special Technological Processes." The existence of a robot close to the work station makes additional requirements on the operation of the personnel. Information concerning industrial robots must be introduced into the teaching aids (in many instances this has already been done).

A role of no small importance is played by the appropriate and prompt training of the engineer-pedagogical workers at the vocational and technical schools. One of the forms of this training can be specialized courses for the production training instructors and foremen in a number of our country's higher educational institutions where the instruction of students in the robotics specialty is currently under way, and also at refresher institutes for engineer-technical workers, at ministries, the subordinate enterprises and organizations of which are the base enterprises for the educational institutions of USSR Gosprofobr [State Committee for Vocational and Technical Education].

In order to increase the effectiveness of the instructional process it is desirable to involve in it the leading scientific and engineering cadres of those branches of industry in which projects on this problem are being carried out. They must be people who have had experience in the adjustment of complicated technological equipment at production entities for which skilled workers are being trained at the school.

Editor's note: We have been informed by USSR Gosprofobr that the All-Union Association of Production Enterprises has been given an instruction to organize, with the involvement of the industrial ministries and departments, the production of such simulators for the purpose of providing them to secondary vocational and technical schools.

5075
CSO: 1828/15

DEMOGRAPHY

LIMITED CENSUS PLANNED FOR UNION REPUBLICS

Census in Kirghiz SSR

Frunze SOVETSKAYA KIRGIZIYA in Russian 22 Sep 84 p 4

/Interview with M. K. Kuptsov, chief of the Population Census and Survey Department of the Kirghiz SSR Central Statistical Administration, by T. Romanova: "How Many Are We, Kirghiz?"; date and place not specified/

/Text/ A sample social-demographic population survey will begin on 2 January 1985.

M. K. Kuptsov, chief of the Population Census and Survey Department of the Kirghiz SSR Central Statistical Administration, discusses why it is necessary and how it will be conducted in Kirghizia.

/Question/ Important results are probably expected from this "minicensus"?

/Answer/ Absolutely true. The results of this survey are of great political and national economic importance, will be a valuable contribution to the extensive study of the social and demographic processes occurring in a developed socialist society and will help to define the new tasks in the matter of ensuring the further rise in the well-being of the Soviet people. Important data will be obtained for an analysis of the fulfillment of the programs of the 11th Five-Year Plan and for the preparation of programs for economic and social development for the 12th Five-Year Plan and for the period until the year 2000.

Here is only one detail. The 600,000th resident was born in Frunze on 20 September--a girl (true, she does not yet have a name) in the family of D. Barkaliyeva, a cutter at the Factory imeni 40-Letiya Oktyabrya. There is also the 600,001st resident in Frunze--Sashen'ka--a daughter in the family of L. Voronova, a crane operator at the Reinforced Concrete Products Plant-1. Commemorative anniversary medals were presented to these newborn babies (or to be more precise, to their mothers). The time when the republic's population will reach 4 million people is not far. This will happen presumably in April 1985.

/Question/ Does the forthcoming population census have some particular features?

/Answer/ In contrast to the all-Union population census of 1979, when the entire population was questioned, this social-demographic survey will be conducted by questioning 5 percent of the permanent population on the entire USSR territory, except for the regions of the Far North and other regions with which communication in January is difficult. For this reason in the republic the survey will not be conducted in Chatkalskiy Rayon. The length of the survey will be 10 days, while the census was conducted for 8 days.

/Question/ Mikhail Karpovich, since not the entire population will participate in this measure, does this mean that its program will be richer than the previous one?

/Answer/ The survey program, as compared with the 1979 census, is much broader. It was prepared by the USSR Central Statistical Administration with the active participation of the USSR State Planning Committee, the USSR State Committee for Labor and Social Problems, the USSR Academy of Sciences and other ministries and departments. It envisages primarily the derivation of versatile data. The experience in conducting population censuses and surveys in the USSR and other countries, as well as recommendations on conducting a sample survey during the intercensus period, was taken into consideration during its preparation.

Very important questions are included in the program. Among them there is a group of questions, which the population was asked during the 1979 census. Previously, the question "family head" was asked and now, "relation to the family member recorded first." The following questions remain: sex, age, marital status, nationality, education, training, source of livelihood, social group and so forth.

Such a continuity of the survey program will make it possible to draw an appropriate comparison and to study the changes in the population structure during the past 6 years. The information obtained on the structure of the population by sex and age will be used for the compilation of the long-term balance of labor resources, production planning, construction of new enterprises and development of public health, education and domestic and trade services. Data on the distribution of families by size and structure are necessary for a better planning of housing construction.

From these data it is very important to investigate problems concerning the population's migration and to analyze the results of the policy aimed at retaining personnel in rural areas.

The program has new subjects, whose detailed study on a broad statistical basis will be made for the first time. Thus, the subject of marriage is intended for obtaining information on the distribution of presently or formerly married people according to the time of marriage, the reason for and time of its termination (if the marriage is dissolved) and other indicators.

The subject of births is no less important. Information on the frequency of births by women of various generations during different periods of time and on the total number of children that married women intend to have will be obtained. This subject is closely connected with another subject, which envisages obtaining information on the employment in the national economy or studies of women during the year of a baby's birth and their use of maternity leaves.

Valuable information will be obtained on the population's average monthly income in 1984. The information on the population collected according to this program will be of exceptional importance for the development of new measures for a rise in the people's well being and for the performance of social-demographic research.

Furthermore, the survey program envisages obtaining data on the social tasks that should be accomplished primarily: improvement in the supply of food products, in the assortment and quality of industrial goods and in housing conditions and others.

Information on the structure of the population of working age (16- to 59-year old men and 16- to 54-year old women) busy with housekeeping and with private subsidiary plots and not studying will also be collected during the survey period. A special questionnaire containing questions on sex, age, level of education, specialty or occupation and conditions under which those wishing to work could take part in public production has been worked out for this.

/Question/ How will the new population census be carried out? Who will conduct it?

/Answer/ The entire activity connected with the preparation, course of survey and working out of materials is entrusted to state statistical organs.

Organizational plans for conducting the 1985 sample social-demographic population survey have been drawn up in all rayons, cities and oblasts. They envisage the formation of census districts, replenishment of survey personnel, a plan for instructing and checking the knowledge of survey workers and a plan for conducting mass explanatory work among the population.

Information will be collected by enumerators and answers will be recorded in survey forms or questionnaires.

Before the beginning of the survey enumerators will make preliminary rounds to all the families of their district for 2 days (28 and 29 December 1984).

Census in Uzbek SSR

Tashkent PRAVDA VOSTOKA in Russian 16 Nov 84 p 4

/Article by G. Kvon, deputy chief of the Uzbek SSR Central Statistical Administration: "During the First Days of January"/

/Text/ A sample social-demographic population survey will be conducted in the country from 2 through 11 January 1985. It will reflect all the changes in the population structure that have occurred after the 1979 census. The data obtained will be used for planning the development of national economic sectors during the 12th Five-Year Plan and for the period until the year 2000.

The sample social-demographic population survey will be conducted by questioning 5 percent of the permanent population on the country's entire territory, except for the regions of the Far North and other regions, with which communication in January is difficult.

The survey is conducted according to an established program for 10 days. The sample survey program consists of a range of questions included in a form, as well as in a questionnaire, for people of working age busy with housekeeping and with private subsidiary plots and not studying, to which answers are to be received from the population. Provision is made for the inclusion in the survey form of information on every surveyed person, that is, on marriage, birth and housing conditions and an opinion as to the social tasks that should be accomplished primarily.

In order to ensure an accuracy of the population census, the survey is conducted on midnight of 1 to 2 January.

Night time is chosen for the time of the census in connection with the fact that the survey is conducted at the place of actual permanent residence of citizens, regardless of the registration and its nature, not at the place of work or service. As a rule, the population is at home at this time. The population survey is connected neither with registration matters, nor with the distribution and use of living space.

The information in survey forms on every questioned family member or a single person will be used exclusively for obtaining consolidated data according to the established program. Survey workers are forbidden to communicate the content of answers to questions to anyone.

Especially trained enumerators will collect information by making rounds to living quarters and recording answers in survey forms from the words of those questioned without demanding the presentation of any documents. Enumerators, as well as controller instructors, deputy chiefs of rayon (city) information computer stations and deputy inspectors of state statistics on population survey problems, who control the enumerators' work, are recruited from workers at local enterprises, institutions, organizations, kolkhozes and educational institutions. All of them are relieved of their main jobs for the entire period during which the survey is conducted. Workers recruited for the sample social-demographic population survey are given an identity card witnessed and signed by the chairman of the rayon (city) executive committee, the chief of the rayon information computer station (center) and of the city information computer station (center) and the rayon (city) inspector of state statistics.

Before the beginning of the survey enumerators will make a preliminary round to all the living quarters of their district for 2 days (28 and 29 December 1984). They will notify the population of the forthcoming survey and find out at what time it is more convenient to drop in in order to take a census of all those permanently residing in a given dwelling. During the preliminary round the enumerator can request in advance the preparation of answers to some questions in the survey form, for example, such as the average monthly earnings of people who had income in 1984, an opinion as to the social tasks that they consider the most important and other questions.

This will enable the enumerator to rapidly obtain during the survey accurate answers to the questions raised in the survey form.

The survey form is filled in by the enumerator on the basis of the personal questioning of citizens. In case of absence of one of those questioned during the survey period the enumerator can record information on the absent person from the words of family members, neighbors, the house administration, members of the kishlak soviet and the kolkhoz board.

The success of the conducted survey will largely depend on how accurately our republic's population will answer the questions raised in the survey form.

Census in Lithuanian SSR

Vilnius SOVETSKAYA LITVA in Russian 23 Dec 84 p 2

/Article by I. Mazurene: "Urgent Questioning"/

> /Text/ A sample social-demographic population survey will be conducted in our republic, as well as throughout the country, during the first half of January of the new year. We asked I. Mazurene, chief of the Population Census and Survey Department of the Lithuanian SSR Central Statistical Administration, to discuss the significance, purposes and procedure of conducting this measure.

As is well known, all-Union population censuses are conducted regularly, approximately once in 10 years. But a planned social-demographic survey will be conducted for the first time. It will make it possible to analyze the changes in the population structure occurring after the last census and to equip us with the data necessary for the preparation of programs for economic and social development during the 12th Five-Year Plan and for a longer period.

The survey program is vast. It contains, first, a group of questions, which the population was asked during the 1979 census (relation to the family member recorded first, sex, age, marital status, nationality, education, source of livelihood and so forth), as well as questions connected with migration. The latter circumstance will make it possible to clarify, in particular, the results of the efforts and measures of our party, the state and the entire nation aimed at retaining personnel in rural areas and reducing the outflow of the rural population to cities.

The subjects of marriage, divorce, births and housing conditions will be studied so profoundly and comprehensively by statistical methods for the first time. By the way, these problems are also closely connected with the task of obtaining information on the employment in the national economy or studies of women, primarily those with children. After all, the family is the most important cell of the socialist society. Strengthening the family and creating the best conditions for the combination of motherhood with women's active participation in labor activity are important tasks of our state of the whole people. The survey will objectively show how successfully the measures taken in recent years by the Communist Party and the Soviet Government to intensify state aid to families with children and to expand the network and to improve the operation of preschool institutions, schools with extended-day groups and so forth are implemented.

The forthcoming survey presupposes obtaining information on the population's opinion concerning the effectiveness of the implemented measures for an improvement in people's health and in medical aid, disease prevention, environmental protection and organization of labor, healthful way of life and sound rest for citizens. We also have the right to expect a rich statistical (questioning) material, which will help to clarify what else should be done to improve the population's provision with food products, to expand the assortment and to improve the quality of industrial consumer goods and to refine domestic and transport services for the public.

Impartial information on the structure of the able-bodied population busy exclusively with housekeeping and with private subsidiary plots and not studying anywhere is of great social and political significance. In order to obtain such information, a special questionnaire concerning the sex, age, level of education, specialty and occupation of people not participating in public production has been worked out. We would like to add that it also contains the following question: On what conditions would they want to join this production? This material seems very urgent from the point of view of evaluation of the prospects for a fuller and more efficient utilization of labor resources.

The survey will involve all the regions of Soviet Lithuania and all the cities of republic subordination with the exception of Palanga and Druskininkay, but not all citizens--only 5 percent of the population. That is why the forthcoming survey is called a sample survey. Taking the voting districts of the elections to the USSR Supreme Soviet held in 1984 as the basis for the selection and formation of a sampling population, we will survey at the sampled districts all those who live here permanently.

There is no need to talk a great deal about the immensity and complexity of the forthcoming work. This is obvious. Almost 900 experienced enumerators, controller instructors and other workers are recruited for its performance in the republic. They are receiving special training and instructions.

On the eve of the survey, that is on 28 and 29 December of this year, enumerators will make preliminary rounds to dwelling houses of their districts, get acquainted with the people, discuss at greater length the forthcoming talks, their role and the procedure of conducting them and make arrangements with citizens as to when it is most convenient to come to them for questioning.

Every person questioned must know that, answering the questions of our associates, he does not have to present any documents and that the records in survey forms will be used only for statistical purposes--for obtaining consolidated data on the population according to the established program. Enumerators and other workers participating in the survey are forbidden to divulge the content of the recorded answers of citizens.

11439
CSO: 1828/73

DEMOGRAPHY

PEREVEDENTSEV ON DECLINE IN RSFSR RURAL POPULATION

Moscow KOMSOMOL'SKAYA PRAVDA in Russian 19 Jan 85 p 2

[Article by V. Perevedentsev, sociologist: "A House with Windows on Tomorrow", under the heading: "We are Studying the Problem"]

[Text] Hello, "Komsomolka"!

We're writing to you because we are now at a crossroads in our lives and don't know which way to turn. We are an ordinary young family. My husband works as a machine operator on the kolkhoz, and I take care of the calves.

But, it turns out that we're the only young family in the village. In appearance the village is still robust; there are nearly 100 homes, but basically they are occupied by old people or people who are about to receive their pensions. They sit around the house and, apparently they are completely satisfied with their lives. But you see, we are young; we want a different kind of life--we want to be active, and have fun.

We like country life. If it only weren't so lonely... We avidly read the newspapers--from time to time they print articles about folks who have returned to their village from the city. But does this turnabout affect many people? How are things going in the non-chernozem region? We'd like to hear that our village will also come to life in a few years, and will once again be full of young people--then we wouldn't be thinking about leaving...

Respectfully,

Nina and Nikolay Vorob'yev
Kalinin Oblast

The questions which Nina and Nikolay raise in their letter have caused a lot of people to start thinking--planners, economic managers, party and Komsomol officials... And they are of considerable interest to sociologists as well. Indeed, how is the demographic situation shaping up in the non-chernozem region today? And which direction will its future development take?

In recent years great efforts have been undertaken to keep the young people in the rural areas. As K.U. Chernenko noted at the October (1984) CPSU Central Committee Plenum, "In recent years the influx of the rural population to the cities has begun to decline... Over a three-year period departures of people from the rural areas as a whole declined by 8 per cent; in the Russian Federation, by 24 per cent, and in the non-chernozem zone, by 30 per cent".

Over the course of a long period of time the outflow of the population from the villages of the non-chernozem zone was very great. During the 25 years after the 1959 census, the rural population of the country as a whole declined by 11 per cent, and in the non-chernozem zone by 42 per cent.

In many oblasts of the non-chernozem zone, the number of rural inhabitants declined by a factor of two and more during those 25 years. Thus, in Kirov Oblast, by 1984 only 44 per cent of the rural inhabitants who lived there in 1959 remained. In Kalinin and Kostroma Oblasts the figure was 48 per cent; in Orlov and Tula Oblasts, 49 per cent; and in Novgorod, Pskov and Yaroslavl' Oblasts, 50 per cent remained.

But it's not just a matter of numbers. It was predominantly the young people who left. In many localities of the non-chernozem zone, a unique age structure took shape among the populace: the proportion of those born before the war is very large, and that of people born during and after the war is very small. And inasmuch as the proportion of young people is small, there are few young families, and few births. Therefore a natural decrease in the population has begun; that is, the number of deaths has become larger than the number of births. And the number of those who annually come of working age is much lower than the number of those coming to retirement age.

What will happen to the rural population of the non-chernozem zone if the demographic processes continue as they have in the 1960's and 1970's?

Specialists have produced special calculations. A typically average administrative region of the non-chernozem zone was taken. And the calculations showed that the number of residents of the region would decline in the near future.

And so, will it turn out that the majority of the villages in the non-chernozem zone will continue to age, and will Nina and Nikolay not be able to count on help from people their own age? I don't believe that this pessimistic conclusion was justified. It is simply necessary to present the essense of the problem realistically and to perceive ways to solve it.

Only young people can forestall the further aging of the non-chernozem zone, and regenerate the rural populace; only young families can do this. Presently the overwhelming majority of children are born to mothers under 30 years old. The demographic situation in the non-chernozem zone at the beginning of the next century will be determined by the number of young people here in the second half of the 1980's, by how actively they enter into marriage, and by how many children the average family will have.

I went to Kalinin Oblast, where the letter to the editors came from, on a business trip for KOMSOMOL'SKAYA PRAVDA. In 1983, in the villages of the oblast (which is by the way typical for the non-chermozem zone) there were 4,400 marriages and 1,300 divorces. It turns out there were a lot fewer marriages than there were five years previously, in 1978 (5,500), and divorces are somewhat greater. For every thousand rural citizens there were 9 marriages, while at the same time there were 10 for every thousand city dwellers. The birth rate increased significantly in 1983, which is attributed to the system of measures directed at increasing the birth rate, adopted by the 26th CPSU Congress. Nevertheless, for every 1,000 rural inhabitants only 13 infants in all were born, which was lower than the number of deaths.

Unfortunately there are a lot of bachelors in the villages of the non-chernozem zone. The fact of the matter is that of late young women are leaving more actively and earlier. In many localities a severe "problem with brides" has arisen.

Thus, special attention must be devoted to the reasons for which the non-chernozem zone turns out to be brideless. And what is it in country life that does not suit them? Why are they rushing to the cities? And why do their parents, and especially their mothers, encourage them to rush off?

Country people are constantly comparing their life with the life of the city dwellers. Let us take the three main aspects of our life--work, everyday life, and relaxation--and compare the conditions for a young woman in the country and in the city.

There are hardly any women among the machine operators in agriculture. And this is not by chance. Agricultural machinery is not adapted for the demands of the female organism. There is a fifteen-year old decree on creating a "woman's" tractor; and it has not been carried out. Women work in the sphere of services to the populace in the broadest sense of the word (education, health care, trade, and so on). All sorts of offices are also full of women. But there are comparatively few workplaces here. One of the main sectors where women's hands are needed is animal husbandry; however, there is still a great deal of heavy manual labor on the farms; there is frequently an inconvenient work regimen, and so on.

In this very same Kalinin Oblast, in 1983, feed distribution on cattle farms was only one-fourth mechanized; on the hog farms, one-half; and getting rid of the manure was 59 and 74 per cent mechanized, respectively. And even supplying the animals with water was far from completely mechanized.

And the country girl of today, to put it bluntly, hardly dreams of gathering up the manure by hand. And it's hard to blame them for this. Decisive measures must be taken for overall mechanization of the farms. I believe that this would have greater influence on the young women's choice of a workplace than summons and talks.

Further--the work regimen is not convenient. When the cows have to be milked three times a day, the milkmaid has to get up at 4:00 AM for the first milking, and return for the last milking at 10:00 or 11:00 PM. Even

if she doesn't work any longer than she has to, the day is broken up into small pieces; you can't do any major jobs at home; you can't absent yourself; and you can't have any sensible relaxation. After all, a girl wants to go the club of an evening, and go to dances.

The way out has been known for a long time--two-shift operation. But you see, two years ago I tried to find a farm with two-shift operation in Pskov Oblast, and in the entire oblast I found, with the help of the oblast agricultural administration, only one.

Everyday life. A country woman spends more time on housework and on her private subsidiary farm plot than she spends working on the kolkhoz or sovkhoz. In all (at work and at home) her workday reaches 13-14 hours in the summer, and is only an hour shorter in the winter. Why does a country woman have to work so much? There are three main reasons:

--a family's subsidiary farm plot is based on manual labor; mechanization here is extremely insignificant. Well, occasionally they get a tractor to plow the garden, and they have a [cream] separator;

--a country house, as a rule, does not have the plumbing which a city house ordinarily has, nor the well-known labor and time-saving "conveniences";

--country men are of very little help to their women around the house.

As a result of the great amount of time spent working, one's free time is very short; that is, that time which a person can spend on himself at his or her own discretion--for relaxation, for entertainment; for self-education; for development in general. And free time in the countryside, just as in the city, is becoming more and more valuable, and the lack of free time is perceived as a great deprivation.

Country women often do not want their daughters to re-live their fate.

Rural life must be made easier, and much more decisively than up to now. In particular, it's high time to take decisive measures to provide the common, ordinary country house with "conveniences". There are well-known, effective methods for installing plumbing in country houses without complex and expensive water lines, the expensiveness of which is apparently interfering with beginning the necessary construction projects. The best way by far is to completely electrify the country home--an electric stove for the kitchen; an electric hot-water heater in the bathroom; a private electric pump for supplying water; electric heating, and if necessary even air conditioning...

What a wide field of activity for young people, for the Komsomol!

Unfortunately, up to the present very little is being done.

But no matter how much success there may be in keeping the local young people in the country, obviously in many areas one will not be able to avoid bringing in people from other localities. Young people must replace not

only those who are about to retire, but also those who depart for other reasons. Where will the additional manpower be found? Partly, in the cities of the non-chernozem zone itself. There are quite a few young men and women in the city who are not entirely satisfied with their fate and with the city as well; ordinarily these are people who have migrated from the country but who have not been able to get well "established" in the city and adapted to it.

There have always been many more children in a country family, on the average, than in city families. However, in the present circumstances, the non-chernozem zone has a special need for a high birthrate. I believe that a special system of incentives should be worked out in these areas, directed toward increasing the birthrate, and improving the children's upbringing. This could bring about a regeneration of the rural populace of the non-chernozem zone, and improve its demographic structure. In the final analysis these expenditures would be rewarded a hundredfold; after all, the future of the entire non-chernozem zone depends on the young people in the Russian villages.

9006
CSO: 1828/93

DEMOGRAPHY

THREE BOOKS ON POPULATION STUDIES REVIEWED

Moscow VESTNIK MOSKOVSKOGO UNIVERSITETA, SERIYA 6: EKONOMIKA in Russian No 6, Nov-Dec 84 pp 78-81

[Review by I. S. Danilenko of books "Osobennosti demograficheskogo razvitiya v SSSR"["Special Features of the Demographic Development in the USSR"] by R. S. Rotova, I. V. Kalinyuk, Ye. S. Samoylova, and others, ed by R. S. Rotova, Finansy i statistika, Moscow, 1982, 232 pages; "Supruzheskiye konflikty" [Marital Conflicts"] by V. A. Sysenko, Finansy i statistika, Moscow, 1983, 175 pages; "Demografiya: istoriya i sovremennost'"["Demography: History and the Present"] by D. K. Shelestov, Finansy i statistika, Moscow, 1983, 271 pages]

[Text] The publications of the scientists of the center for the study of population problems of the economics faculty of Moscow State University, in which an independent scientific school was formed in the 1970's that exerts influence on all of the research on population problems in Soviet science, are attracting the attention of the scientific community and a broad range of readers who are interested in the subject of demography. This is caused by a number of reasons: By the high scientific level of the majority of works, by the topical importance of the problems investigated, by the comprehensiveness of the approach to the study of population, and by the presence, in this sphere, of a large number of questions not yet fully solved and various approaches to their solution among Soviet and foreign investigators.

The latest works of the scientists of the center, published in 1982 and 1983, likewise did not remain without attention. We will briefly dwell on three books, which testify to the broadness of the approach to the study of population and to some degree to the achievements and scientific problems, on whose solution the collective of authors will still have to work.

On the whole, all three books deserve a positive assessment since they make a contribution to the movement of scientific thought and stimulate scientific investigation. At the same time, not all these can be accepted unconditionally. In this brief review, our task will be to express mainly observations of a critical character.

The book which is devoted to the special features of the demographic development of the USSR contains three chapters, in which there is a consecutive examination of the demographic development of the USSR during the previous stages of the history of our country (1920's-1960's), in the last two decades

(1960's-1980's), and, finally, the trends for the future. In every one of the three chapters, the reader finds facts that are unknown or little known to him and their interesting explanation.

The authors make extensive use of concrete [i. e., empirical] sociological research conducted by various social scientists, not for demographic purposes, but being utilized by demographic science. This is a fruitful and economical (from the standpoint of the expenditure of scientific manpower and funds) method. The use of the results of concrete sociological research makes it possible to fill demographic and statistical facts with concrete economic, socio-political, and spiritual-ideological content. As a result, the demographic development of society does not appear as the empty scheme of the movement of demographic and statistical indicators (birth rate, death rate, growth or decrease of the population), but in the whole richness and concreteness of its socio-economic and spiritual-ideological content.

But, unfortunately, for the authors of the book the demographic development remained only a scheme of the movement of demographic indicators, and the socio-economic and spiritual-ideological processes being examined--the movement of this scheme called forth by a system of factors. Although such a path does expand our knowledge of the interrelationship between demographic development and other aspects of social development, it does not lead to the exposure of its essence, content and historical regularities, without which it is impossible to reveal the long-term trends of population reproduction in the future, but it is precisely with the examination of this problem that the authors conclude the book. These final efforts of theirs are commendable. The precise determination of the number of the population of the country and its regions far ahead into the future is of enormous value for socio-economic planning. The whole question is which methodology of calculating the future number of the population to select. The available calculations, precisely because of weak methodological validity, have proved to be a guessing game and a hope for analogy; they were based on the simple repetition of historical experience. For this reason, the most perfect method of calculation and the use of mathematical modeling cannot change the situation.

The authors of the book, as it were, exempted themselves from the solution of difficult methodological problems, having laid at the basis of their work the conception of demographic transition from the "traditional" to the "modern" type of population reproduction. Their task was reduced to attempts to prove that all special features of the demographic development of our country in the past, present and future consist in the specific character of the movement according to stages of the demographic transition.

Although not only the authors of this work, but also some other Soviet demographers came to believe in the truth of the conception of demographic transition, we take the responsibility upon ourselves to declare that this conception is the consequence of the superficial and descriptive generalization of the demographic history of a number of countries on the level of its demographic and statistical indicators. It is by no means the result of the disclosure of the essence of the content and laws of demographic development.

It would seem that Soviet scientists who recognize the conception of demographic transition as a general sociological theory of demographic development, tolerate great thoughtlessness. We would like to call attention to the fact that the indicated conception can be recognized only within the framework of doctrines of social development that are based on technological determinism, i.e., within the framework of theories like the common industrial society, the technetronic era, etc. The scientific unsoundness of these theories is generally known.

In the same way as statistical indicators of the production of metals, machinery, agricultural and other products in various countries do not provide a basis for the apportionment of "traditional" and "modern" production methods, so demographic-statistical indicators, too, must not slur over important differences in the content of demographic development in various countries with the aid of the concepts of "traditional" and "modern" types of population reproduction. It is impossible to reveal the essence and special features of both types of production of direct life--the means of the subsistence of people, the tools of labor and new generations*--in the history of any country, without having done thorough and comprehensive research on their economic, socio-political and spiritual-ideological content, as well as on the concrete contradictions between these two types of production in the system of the operation and development of the productive forces and production relations.

It can be concluded that the special features of the demographic development of the USSR require the concrete analysis of its content above all as an economic-labor, socio-political, and spiritual-ideological process in the operation and development of society as an integral system. The authors of the book under review, on this plane, provided a great deal of interesting scientific material. It would have great value if it were not adjusted artificially to fit into the scheme of demographic transition.

V. A. Sysenko's book was written on a subject which is of interest to all. It is well known that even very happy married couples rarely succeed, in the process of their joint life of many years, to avoid conflicts. And how often does marital life turn out to be very short because of conflicts! For this reason, questions about how to avoid conflicts that are destructive for the family and for marital ties, how to solve conflict that has already developed, are of general interest. Such popularity of the subject is fraught with the danger for the author to let himself in for age-old and useless maxims such as: avoid conflicts and be happy, conflicts are bad, love and counsel are good.

In honor of V. A. Sysenko, it must be said that in principle he resisted this temptation. His work is the result of serious socio-psychological research. In it the attempt is made to show that marital conflicts influence the reproduction of the population, its quantitative and qualitative indicators. Marital conflicts are an especially personal matter, but they perceptibly affect all aspects of social life, they are the reason for a significant percentage of the divorces, and their number in the country is growing: in 1940, 205,600 were registered, in 1980--929,600 (p 7), on them depend the indicators of the birth rate, the quality of the education of children, and, to a certain extent, even the state of health of the population.

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* see K. Marx and F. Engels, "Sochineniya" [Works], Vol 21, pp 25-26.

The work begins with an analysis of the stability of marriage as a social problem. It cites many arguments to the effect that this is really a serious social problem. As the result of divorces, another 350,000 to 400,000 are added to the total number of incomplete families every year, where a child is brought up by one of the parents. The influence of divorces on the moral-psychological development of children has not yet been researched, but it is indisputable.

The book contains many interesting materials on the problems of marital interrelationships and the psychology of the individual as the subject of these interrelationships. Sufficiently convincing are the arguments of V. A. Sysenko about the role of family upbringing in the system of the formation of the social qualities of new generations and on the necessity of improving the work with respect to the preparation of young people for marriage. Indeed, family upbringing is the foundation of the educational activity of society. The initial potential, not only of the quantitative, but also of the qualitative development of every new generation is formed in the family. And completely inadmissible is the disparagement of the role of family upbringing (as done by some authors, with whom V. A. Sysenko debates) from the position that it does not meet modern requirements in all families, and that, therefore, it is necessary to replace it as quickly as possible with highly professional forms of the public upbringing of children. The problem of the deterioration of "the waste" of family upbringing is, indeed, very acute. And the assertion: "The inability of the parents in regard to the upbringing of their own children represents a particular social problem" (p 140)--is correct. The solution of this problem lies along the path of a substantial rise in the psychological-pedagogical level of the parents, which constitutes one of the important directions of the general upsurge of ideological work and political work among the masses--toward this the party and the entire Soviet people were oriented by the June (1983) and the April (1984) Plenum of the CPSR Central Committee.

When one reads the book, one becomes convinced that the author is fascinated by the subject and that this predestined the positive result of his work. But nevertheless serious critical observations arise. First of all, marital conflicts are examined outside the proper connection with the social functions of marriage and family, and this did not allow the thorough exposure of the socio-economic and educational sources of marital conflicts, to give them a really scientific, and not a descriptive classification. Secondly, marital conflicts are examined in a broad socio-psychological range; however, in so doing, little attention is given to the investigation of those among them which arise on the ground of the absence, in husband or wife, of a need for children, lack of agreement concerning the number and time of their birth, etc. And it is precisely these questions which are difficult to solve by social psychologists, who do not study professional-demographic problems. Insufficient orientation to the solution of profound problems of demographic theory is the main defect of this work.

D. K. Shelestov's book "Demografiya: istoriya i sovremennost'" fills a large gap in our knowledge about the history of the formation and development of demographic knowledge. The publications available prior to its publication were of a fragmentary character. The author of the book under review has a good knowledge of the scientific methodology of research on population problems. In the analysis of the scientific-historical material, the conclusions

and opinions of the author, one feels that the method of dialectical materialism is not a phrase, but a real instrument of research on such a difficult subject as is represented by the history of demography and its contemporary state.

It is a well-known fact that the good knowledge of the history of any science is an important condition for the development of its theory. For demography this is particularly topical since a mass of inexact assessments and opinions had accumulated here that were not subjected to the requisite critical analysis. D. K. Shelestov carried out a significant part of this difficult work. Special note must be made of the analysis of the significance of the ideas and tenets of the classics of Marxism-Leninism for the formation and development of a genuinely scientific demographic theory. With complete justification, the author believes and convincingly proves that within the framework of bourgeois social science the creation of a genuinely scientific demographic theory is impossible.

Of course, in a work on such a broad and little researched subject, not all problems have received full illumination. But the main thing has been done. A work has been created on whose basis it is possible to define more precisely and to concretize questions of the history of demography, which are of great significance for the further development of its theory. We would like to note that the science of history is capable of providing serious assistance to demographic theory through comprehensive research on the demographic history of different countries and all of mankind. And the science of history itself loses exceedingly much if the content and the dynamics of demographic development are not strongly represented in it. Comparative research on economic and demographic history, as well as the history of economic and demographic thought, can yield many interesting results. And in this, D. K. Shelestov's book can be a great help.

In assessing this work highly, it must nevertheless be noted that its author did not succeed fully in outlining and showing all the difficult frontiers to which the science of demography has proceeded in our day. The front of demographic research has become broad and difficult in terms of content. In the 1970's and 1980's there has been a sharp increase in the number of publications on demographic subjects. We would like for the author to take upon himself the work of writing a special study on the modern frontier in the development of Soviet demography, since he brought his research up to this line.

Thus a survey was presented of three works of scientists of the center for population, which are distinguished from one another not only by subjects; the differences of methodological character are appreciable. The further elaboration and coordination of the methodological questions of demographic theory remain the most urgent tasks of this creative collective.

8970
CSO: 1828/95

GENERAL

NEW REGULATIONS ON SOCIAL INSURANCE EXPLAINED

Moscow TRUD in Russian 5, 6 Dec 84

[Article by G. Simonenko, candidate of jurisprudence: "News About Stipends"]

[5 Dec 84 p 4]

> [Text] As has already been noted in the press, the USSR Council of Ministers and the AUCCTU on 23 February 1984 adopted the decree, "On Stipends for State Social Insurance," No 191 [SP SSSR, 1984, No 8, Article 46]. It establishes the basic conditions for providing the workers with these stipends. Detailed rules for assigning, calculating and paying the stipends are contained in the provisions concerning the policy for providing stipends for state social insurance which were approved by the Presidium of the AUCCTU in keeping with the basic conditions. These normative documents went into effect on 1 May 1984.
>
> The editorial staff is receiving a considerable number of letters whose writers are asking for discussion of the changes in the policy and the conditions for assigning and paying these stipends.
>
> Candidate of Jurisprudence G. Simonenko answers the questions that have been asked in our readers' letters.

Indeed, many questions pertaining to the right to obtain stipends, the policy for calculating them and the payment of them are now being resolved in a new way.

According to the general rule, the stipend is assigned under the condition that the temporary disability (leave for pregnancy and birth) has come during a work period. The stipend is not allotted if the illness begins after leaving the job. Previously there was an exception to this rule only when the person who had left work had suffered from tuberculosis. But now this exception extends to stipends for other cases of temporary disability, and also for pregnancy and childbirth.

The right to give permission to pay stipends to workers and employees after they have been discharged for work is granted in each individual case to the presidiums or the secretariats of the republic (in republics that do not have oblast division), kray, oblast and Moscow and Kiev city trade union councils after a petition from the lower trade union agencies.

The trade union council can allow the payment of a stipend under the condition that the disability or the leave for pregnancy and childbirth has begun within a month after discharge from work because of good reasons or if the temporary disability continues for more than a month. Good reasons for discharge are considered those whereby, according to existing legislation, the work tenure is retained, except for discharge at the worker's own request without good reason. The concrete list of good reasons for discharge at the worker's own request is contained in the clarification of the USSR State Committee for Labor and Social Problems and the AUCCTU of 9 July 1980 with the subsequent additions. In particular, at the present time a good reason is considered to be discharge at the request of the workers and employs who have three or more dependent children under 16 years (students--18 years) of age, and also discharge because of entering any training institution, including vocational and technical schools.

The secretariat and the presidium of the trade union council can also permit payment of stipends to former military servicemen who have fallen ill before the beginning of work but within a month after being discharged from active duty in the USSR Armed Forces.

Under these conditions the stipends are paid in the following amounts: when the time for leave for pregnancy and childbirth comes--100 percent of the earnings; when suffering from tuberculosis, as was previously the case (in keeping with general rules) taking into account the duration of continuous tenure and membership in the trade union; with other illnesses--in the amount established for workers and employees with a continuous work tenure of up to 3 years, that is, 50 percent of the earnings (for members of the trade union); for former military servicemen--in the amount of the minimum wage (at the present time--70 rubles per month), regardless of whether or not they are members of the trade union.

The stipend is paid to people according to the place of their previous employment, and to former military servicemen--according to the trade union committees of the enterprise (institution, organization) in keeping with the instruction of the trade union council.

New documents reinforce the rule concerning limiting the right to a stipend for temporary disability for those people who have been discharged from their previous job because of violation of labor discipline or the commission of a crime. Previously, in order to obtain a stipend with a general illness, these workers had to have been working in the new place of employment for no less than 6 months after being discharged because of the aforementioned reasons. Now this limitation has been removed for all kinds of temporary disability, that is, they have the right to a stipend beginning with the first day of employment in the new place. But it must be kept in mind that for those who have been discharged from work because of these reasons, the previous

continuous labor tenure is not retained. Therefore when such people are ill after entering a new job the amount of the stipend is determined for them on the basis of continuous work tenure which they had established in the last job.

Beginning on 1 May of this year the right to a stipend for temporary disability or pregnancy and childbirth has been granted also to individuals who have completed vocational and technical training institutions if their disability has started before the beginning of their work. Stipends are issued to them in the same way as they are to young specialists who have completed higher or secondary specialized training institutions, that is, beginning on the day on which they were to have appeared at work.

The previous additional condition that seasonal workers have a certain amount of work tenure in order to paid a stipend for temporary disability has been abolished. Now the stipend is assigned to them on general bases, but the duration of its payment for a general illness has remained the same--no more than 75 calendar days.

The policy for paying the stipend for temporary disability and pregnancy or childbirth which has not yet been paid by the time of the death of the worker has been changed. Now it can be paid to family members with whom the deceased had been living, regardless of whether or not they were dependent, and also other people even though they may have been living separately but were dependent on the deceased because of disability.

The provision of stipends for household injuries and operations for artificially interrupting pregnancies have been improved. As we know, with household injuries the stipend is paid beginning on the sixth day of disability. This rule remains in force, but beginning on 1 May certain exceptions have been introduced. For injuries sustained as a result of natural disasters (earthquakes, flooding, hurricanes, fires and so forth) the hospital bills are issued and paid not from the sixth day, but beginning on the first day, for the entire period of disability within amounts established for general illness. The stipend also issued beginning the first day if the injury was the result of an anatomical defect of the patient. For example, when a worker with an amputated leg has fallen and received an injury as a result of this anatomical defect the stipend should be paid from the first day of his disability.

But if an injury from a natural disaster or because of an anatomical defect has been sustained while performing work duties, on the territory of the enterprise, on the way to or from work or in other circumstances which are considered to be related to work, of course, they are classified as labor injury and the stipend is paid in the amount of the complete earnings, regardless of the length of continuous work tenure or membership in the trade union.

For operations for artificial interruption of pregnancy the new normative documents envision issuing hospital bills and paying stipends for the first 3 days of temporary disability. This rule pertains to all women, regardless of the amount of their earnings. One should only recall that this norm will be

introduced not as of 1 May of this year, but as of 1 January 1985. Otherwise, the previous rules, with insignificant changes, remain in effect. Consequently, with operations related to artificial interruption of pregnancy because of medical reasons, with self-induced abortion and also if the woman's earnings do not exceed the minimum established by law, the stipend, as before, is paid from the first day of disability for the entire period. And with respect to the minimum earnings (at the present time, as was pointed out above, these are 70 rubles per month) this rule is in effect beginning on 1 May of this year. In all other cases, after the first 3 days of disability the payment of the stipend stops and it is started again beginning on the 11th day if the disability continues for more than 10 days.

The stipend for obtaining a prosthesis at the present time is paid not only for the time the patient is in the prosthesis-orthopedic hospital, but also for the time for traveling there and back. But the overall duration of the payment remains the same--no more than 30 calendar days.

[6 Dec 84 p 4]

[Text] According to the new rules the stipend for pregnancy and childbirth (as distinct from the stipend for illness) can be paid in the event that the leave for pregnancy and childbirth is granted during a period of leave to care for a child, including leave without pay. The stipend is paid for the entire time that is certified by the hospital form. Moreover, if the period during which the woman is partially paid on leave to care for a child coincides with the leave for pregnancy and childbirth, she has the choice of receiving either the stipend for pregnancy and childbirth or the stipend for caring for the child.

According to the general rule the stipend for caring for a child up to the age of 1 year is paid beginning on the day the mother is granted the leave for this purpose. But if the woman has not promptly documented the leave for caring for a child, the question of paying her the stipend for the time that has passed can be resolved by the trade union committee of the enterprise (institution, organization) under the condition that the stipend is applied for no later than 6 months after the child reaches 1 year of age.

In the event of the death of the mother the leave for caring for the child until he reaches 1 year of age with the payment of the stipend is granted to the father of the child or to another party who is actually raising the child (if they apply for it). If the mother cannot care for the child as a result of in-patient treatment, the leave to care for the child with the payment of the stipend during the period the mother is in the medical institution can be granted to the father of the child or to another party who is actually caring for the child. Then the stipend is paid to those people if it has not been given to the mother for the indicated period.

By decision of the secretariat or the presidium of the republic (in republics that do not have oblast division), kray, oblast, Moscow and Kiev city trade union councils it is possible to prolong the 6-month period established for applying for the stipend. Therefore it can be designated after the indicated period has expired if there are good reasons for extending this.

Benefits have been expanded to pay stipends for caring for children who are ill. Now when a child under 7 years of age is ill the stipend to care for him is paid for a period of up to 10 calendar days not only for single mothers, widows and divorced women, but also single husbands who are rearing children (widowers and divorced men) and also wives of military servicemen on active duty.

The policy has been clarified for calculating stipends for individual categories of workers. Individuals whose working time is not accounted for (home workers, registered procurers of agricultural products and secondary and other kinds of raw material, individuals who gather food scraps, street hawkers and so forth, stipends for temporary disability, including labor accidents and occupational diseases, pregnancy and childbirth, are calculated from the actual earnings, but no more than double the salary (monthly) or double the wage rate.

The stipend is paid to them for all of the calendar days of the period of disability or leave for pregnancy or childbirth in an amount so that the sum of the stipend and the earnings during the corresponding month taken together do not exceed the average monthly earnings determined on the basis of the daily earnings.

For workers and employees who are working in the homes of individual citizens and in religious organizations under a labor agreement, the amount of the stipend for temporary disability is calculated not depending on the length of membership in the trade union, as was previously the case, but taking into account the continuous work tenure on a par with other workers and employees.

Supernumerary workers are provided with stipends for social insurance if they are working under a labor agreement. In all cases the stipend is calculated for them on the basis of their actual earnings, but it is not more than the salary (wage rate) of a staff worker in the corresponding position with the corresponding skills, or the maximum (limit) earnings (remunerations) established for a number of categories of such workers.

Supernumerary workers who do not have a schedule for coming to work are paid a stipend in such a way that, along with the earnings for the month of disability, it does not exceed the salary (wage rate) of the corresponding staff worker or the established minimum (limit) earnings (remunerations).

For supernumerary workers who receive an hourly wage (instructors in training institutions and courses, leaders of circles, and so forth), stipends for temporary disability, pregnancy and childbirth are calculated on the basis of the hourly wage and are paid for the hours of work according to the schedule (distribution list) that has been missed because of the temporary disability or leave because of pregnancy or childbirth. The overall sum of the stipend and the earnings during the month of disability in any case cannot exceed the rate (salary) of a staff worker in the corresponding occupation and the with corresponding qualifications.

Workers and employees who have been sent for agricultural work or to perform work at another enterprise or organization while retaining their main place of employment with all or part of their regular earnings, are given stipends for temporary disability that begins during this period on the basis of earnings which they received before being sent for this kind of work. It is paid under general conditions that are in effect at the main place of employment.

For workers who are employed in raising agricultural crops on sovkhozes and other agricultural enterprises according to the piece-rate-plus-bonus system of wages the stipend for temporary disability and pregnancy and childbirth is paid under the condition that their labor and wages are accounted for. In all cases, including labor injury and occupational diseases and also pregnancy and childbirth, the stipend is calculated for them on the basis of the actual earnings for this job, but not more than twice the wage rate.

If the disability (leave for pregnancy or childbirth) comes during a period when a worker is temporarily replacing someone else with a higher salary, and the length of this replacement has not been established, the stipend is paid on the basis of the higher earnings up until the day when the worker who is being replaced returns to work.

The previous provisions did not contain norms concerning the policy when paying stipends of accounting for increments to wages or increased coefficients (except for the increment and coefficient for work in the Far North or locations on an equal footing with it) which are established for workers and employees for a particular period of time, the period of time for performing a certain amount of work or temporary duty in a particular area. It is now envisioned that the stipend for temporary disability or pregnancy and childbirth, taking this increment and coefficient into account, is paid until the day up to which it has been established or until the individual leaves the corresponding area.

As we know, changes in the amount of wages during the period of disability (leave for pregnancy or childbirth) are not taken into account when calculating the stipend. But this rule does not apply to cases in which the worker is transferred as a disciplinary punishment to lower-paid work and the disability begins before he begins to do this work. Now they have clearly established the practice whereby in such cases the stipend for the days during which the worker was to have been performing lower-paid work is calculated for him on the basis of the wage rate (salary) for this work.

The new legislation also envisions additional limitations in supplying stipends. It has been established that workers and employees who have been absent without good reason immediately before the beginning of the temporary disability are deprived of the stipend beginning on the day of the unauthorized absence and for the period established by the trade union of the enterprise (institution, organization) or its commission for social insurance. As we can see, here one applies the same sanction as the one for violators of the conditions for therapy prescribed by the doctor.

Parties who have received injuries while committing crimes are not paid a stipend for the entire period of temporary disability which has taken place as a result of these factors.

Certain other rules related to providing stipends for social insurance have also been changed and augmented.

In conclusion one should note that the aforementioned decree of the USSR Council of Ministers and the AUCCTU envisions that control over correct expenditure of funds from state social insurance to pay stipends is exercised by higher economic agencies as well as trade union agencies. Thus the practice of departmental control in this area has been given legal sanction.

11772
CSO: 1828/89

GENERAL

MISCELLANEOUS STATISTICS ON EDUCATION, DEMOGRAPHY

Moscow VESTNIK STATISTIKI in Russian No 11, Nov 84 pp 49-79

[Excerpts] I. Vocational and Technical Education in the USSR

The system of vocational and technical education has been determined as the basic form of planned training for qualified working cadres by the basic directions in reform of general education and vocational schools.

In 1983, more than 10 million people were trained in trades in institutions of vocational and technical education of the USSR Gosprofobra [State Vocational Education] system and in departmental vocational schools, as well as directly in enterprises, organizations and kolkhozes.

In 1983, out of the total number of workers trained in a trade, 7.5 million people or 74 percent were trained directly in enterprises, in organizations and in kolkhozes; 2.7 million people or 26 percent were trained in institutions of vocational and technical education of the USSR Gosprofobra system and in departmental vocational schools.

The training (output) of qualified workers by institutions of vocational and technical education of the USSR Gosprofobra system, according to type of school, is described by the following data (in thousands of people):

Type of School	1980	1981	1982	1983	percent of total 1980	percent of total 1983
Total workers trained	2,430	2,469	2,516	2,518	100	100
including:						
By day schools	1,920	1,915	1,917	1,915	79	76
of which:						
Technical schools	643	719	765	784	26	31
Secondary Vocational and technical schools	572	630	644	655	24	26
Vocational and technical schools not offering secondary education	705	566	508	476	29	19
By evening (shift) schools	510	554	599	603	21	24

During three years of the current five-year plan alone, 7.5 million people have been trained in the institutions of vocational and technical education of the USSR Gosprofobra system.

In 1983, 79 percent of those completing day institutions of vocational and technical education had received a full secondary education, while the figure was 68 percent in 1980. The fields entered by qualified workers who completed the day institutions of vocational and technical education or training in enterprises and in organizations of various sectors of the national economy are evident from the following data:

Category	1983 Thousands of people	1983 Percent of total
Total workers trained in day schools	1,915	100.0
Including those sent to work	1,814	94.7
Of which, to an enterprise or organization in:		
Industry	603	33.2
Agriculture	669	36.9
Transport	84	4.6
Communications	25	1.4
Construction	246	13.5
Commerce and public nutrition	58	3.2
Housing and communal services and domestic services	77	4.3

Data on entry of students into the institutions of vocational and technical education of the USSR Gosprofobra system is given below (in thousands of people):

Category	1980	1981	1982	1983	Percent of Total	
					1980	1983
Total accepted	2,665	2,732	2,742	2,773	100	100
including						
In day schools	2,111	2,130	2,129	2,145	79	77
of which:						
Technical schools	735	781	796	828	28	30
Secondary vocational and technical schools	801	846	860	876	30	31
Vocational and technical schools not offering secondary education	575	503	473	441	21	16
Evening (shift) schools	554	602	613	628	21	23

The number of those entering day institutions of vocational and technical education after having completed full secondary schooling increases every year. The proportion of such students in the overall number of those accepted into day schools comprised 41 percent in 1980 and 45 percent in 1983.

The development of the network of institutions of vocational and technical education of the USSR Gosprofobra system is described by the following data (at the end of the year):

Category	1980			1983		
	Number of Schools	Number of students		Number of Schools	Number of students	
		Thousands	Percent		Thousands	Percent
All schools	7,242	3,659	100	7,624	3,770	100
including:						
Day schools	6,483	3,309	90	6,810	3,390	90
of which:						
Technical schools	1,313	779	21	1,467	811	21
Secondary vocational and technical schools	4,284	2,103	57	4,731	2,292	61
Vocational and technical schools not offering secondary education	886	427	12	612	287	8
Evening (shift) schools	759	350	10	814	380	10

In recent years, the network of secondary vocational and technical schools has developed most intensively: from 1975 to 1983, their number increased by 1.7 times, while the number of their students has increased by 1.9 times. The number of technical schools and the number of their students have increased by almost 2 times during this period.

At the present time, within the overall number of day schools, the proportion of secondary vocational and technical schools, and technical schools, comprises 91 percent.

2. Number and Composition of Scientific Workers According to Academic Level and Academic Title (at the end of the year; in number of people)

Category	1970	1975	1980	1983
USSR				
Number of scientific workers of whom have the academic level:	927,709	1,223,428	1,373,263	1,439,963
Doctor of Science	23,616	32,264	37,747	41,005
Candidate of Science	224,490	326,767	396,244	435,391
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	18,095	22,942	27,381	29,394
Docent	68,581	87,884	110,698	125,351
Senior scientific worker	39,005	53,323	65,951	73,465
Junior scientific worker and assistant	48,849	44,978	41,101	42,041
RSFSR				
Number of scientific workers of whom have the academic level:	631,111	838,473	937,665	984,548
Doctor of Science	16,135	22,105	25,838	28,033
Candidate of Science	145,071	212,363	257,329	281,579
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	11,859	15,146	17,885	19,156
Docent	42,926	53,783	66,902	74,871
Senior scientific worker	25,184	34,574	44,012	49,012
Junior scientific worker and assistant	32,141	30,367	29,423	29,795

Category	1970	1975	1980	1983
Ukrainian SSR				
Number of scientific workers	129,781	171,478	195,782	203,269
of whom have the academic level:				
Doctor of Science	3,123	4,163	4,842	5,365
Candidate of Science	33,317	47,303	58,002	64,379
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	2,590	3,211	3,818	4,116
Docent	12,079	15,106	19,221	21,917
Senior scientific worker	5,085	6,850	8,395	9,587
Junior scientific worker and assistant	3,516	2,266	1,880	2,822
Belorussian SSR				
Number of scientific workers	21,863	31,020	38,130	39,134
of whom have the academic level:				
Doctor of Science	425	624	779	896
Candidate of Science	5,564	8,362	10,820	12,158
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	382	485	657	724
Docent	1,962	2,724	3,679	4,395
Senior scientific worker	855	1,278	1,709	1,935
Junior scientific worker and assistant	1,036	1,001	1,273	1,146
Uzbek SSR				
Number of scientific workers	25,244	30,835	35,288	37,338
of whom have the academic level:				
Doctor of Science	494	745	939	1,076
Candidate of Science	6,907	10,505	12,992	14,573
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	423	560	764	852
Docent	2,126	2,958	3,941	4,900
Senior scientific worker	956	1,291	1,509	1,800
Junior scientific worker and assistant	890	1,255	1,593	1,911

Category	1970	1975	1980	1983
Kazakh SSR				
Number of scientific workers	26,802	32,011	37,390	39,584
of whom have the academic level:				
Doctor of Science	421	607	708	768
Candidate of Science	6,272	9,642	11,621	12,909
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	340	468	557	623
Docent	2,009	2,844	3,769	4,306
Senior scientific worker	1,097	1,655	1,776	1,893
Junior scientific worker and assistant	1,646	1,646	772	710
Georgian SSR				
Number of scientific workers	20,160	24,941	25,198	26,583
of whom have the academic level:				
Doctor of Science	989	1,228	1,335	1,332
Candidate of Science	5,860	7,679	9,104	9,908
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	814	911	1,045	1,033
Docent	1,698	2,183	2,696	2,990
Senior scientific worker	1,752	1,912	2,019	2,098
Junior scientific worker and assistant	3,084	1,608	616	891
Azerbaijan SSR				
Number of scientific workers	17,082	21,280	21,993	22,984
of whom have the academic level:				
Doctor of Science	652	811	907	928
Candidate of Science	5,346	7,196	8,186	8,890
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	506	623	708	726
Docent	1,141	1,862	2,174	2,499
Senior scientific worker	1,197	1,523	1,515	1,717
Junior scientific worker and assistant	2,042	3,145	2,323	2,701

Category	1970	1975	1980	1983
Lithuanian SSR				
Number of scientific workers	8,978	12,538	14,307	14,547
of whom have the academic level:				
Doctor of Science	182	274	347	426
Candidate of Science	2,710	4,339	5,197	5,666
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	165	231	331	402
Docent	923	1,348	1,841	2,077
Senior scientific worker	389	676	864	973
Junior scientific worker and assistant	362	83	32	65
Moldavian SSR				
Number of scientific workers	5,695	7,309	8,807	9,557
of whom have the academic level:				
Doctor of Science	113	192	241	277
Candidate of Science	1,834	2,882	3,506	3,941
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	97	142	183	198
Docent	519	699	922	1,094
Senior scientific worker	284	435	524	595
Junior scientific worker and assistant	589	668	76	63
Latvian SSR				
Number of scientific workers	8,895	12,024	12,585	13,151
of whom have the academic level:				
Doctor of Science	175	262	332	356
Candidate of Science	2,517	3,484	4,172	4,483
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	165	200	250	282
Docent	719	1,052	1,320	1,443
Senior scientific worker	387	543	669	727
Junior scientific worker and assistant	650	565	662	687

Category	1970	1975	1980	1983
Kirghiz SSR				
Number of scientific workers	5,867	7,131	8,194	8,551
of whom have the academic level:				
Doctor of Science	128	172	198	205
Candidate of Science	1,572	2,214	2,588	2,891
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	114	132	170	177
Docent	412	545	684	787
Senior scientific worker	309	462	469	542
Junior scientific worker and assistant	37	31	18	2
Tajik SSR				
Number of scientific workers	5,067	6,629	7,590	8,159
of whom have the academic level:				
Doctor of Science	102	149	183	208
Candidate of Science	1,364	2,126	2,505	2,811
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	90	120	147	168
Docent	358	571	785	910
Senior scientific worker	204	335	409	445
Junior scientific worker and assistant	1,131	510	417	243
Armenian SSR				
Number of scientific workers	12,808	17,138	19,059	20,331
of whom have the academic level:				
Doctor of Science	482	630	700	709
Candidate of Science	3,346	4,734	5,624	6,219
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	370	479	540	568
Docent	1,006	1,268	1,566	1,869
Senior scientific worker	821	1,091	1,262	1,241
Junior scientific worker and assistant	1,176	1,424	1,642	614

Category	1970	1975	1980	1983
Turkmen SSR				
Number of scientific workers	3,649	4,634	5,030	5,308
of whom have the academic level:				
Doctor of Science	62	92	108	128
Candidate of Science	1,200	1,714	1,998	2,178
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	54	62	84	101
Docent	239	331	437	443
Senior scientific worker	186	261	308	339
Junior scientific worker and assistant	13	1	-	-
Estonian SSR				
Number of scientific workers	4,707	5,987	6,245	6,919
of whom have the academic level:				
Doctor of Science	133	210	290	298
Candidate of Science	1,610	2,219	2,600	2,806
Number of scientific workers having the academic titles:				
Academician, corresponding member, professor	126	172	242	268
Docent	464	610	761	850
Senior scientific worker	299	437	511	561
Junior scientific worker and assistant	536	408	374	391

4. Natural Population Movement in the USSR

1. Birth, death and natural population growth

	Per 1,000 of the population		
Years	Number of births	Number of deaths	Natural growth
1982	18.9	10.1	8.8
1983	20.1	10.3	9.8

2. Distribution of the number of births, deaths and registered marriages according to months in 1983 (in percent)

	Births	Deaths	Registered marriages
Total	100.0	100.0	100.0
by month:			
January	8.6	8.7	7.1
February	7.7	7.8	7.4
March	8.7	9.1	8.6
April	8.4	8.4	7.0
May	8.7	8.7	6.0
June	8.5	8.0	7.9
July	8.9	8.2	9.5
August	8.5	7.9	10.4
September	8.1	7.7	9.4
October	8.1	8.4	8.7
November	7.9	8.4	8.7
December	7.9	8.7	9.3

3. Distribution of the number of births according to their sequence in 1983 (in percent)

Total births	In sequence of birth within the family										
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th and more	unspecified
100.0	41.5	35.4	11.5	4.7	2.7	1.6	1.0	0.6	0.4	0.5	0.1

4. Age indices of birth rates in urban settlements and rural districts (number of births per 1,000 women according to age group)

Age	1982-1983		
	Total	In urban settlements	In rural districts
15-49 years old[1]	76.0	64.8	101.6
under 20[2]	41.6	40.2	43.8
20-24	184.6	150.6	274.4
25-29	133.3	112.7	185.7
30-34	72.5	59.6	108.7
35-39	32.3	23.7	56.1
40-44	8.0	4.0	16.6
45-49	1.1	0.4	2.5

5. Age indices of birth rates according to union republic in 1982-1983 (number of births per 1000 women according to age group)

Republic	15-49[1]	including the age groups					
		under 20[2]	20-24	25-29	30-34	35-39	40-44	45-49
USSR	76.0	41.6	184.6	133.3	72.5	32.3	8.0	1.1
RSFSR	65.8	44.7	163.8	113.2	59.9	23.9	4.1	0.3
Ukrainian SSR	61.1	49.2	170.2	109.0	54.6	20.3	3.7	0.3
Belorussian SSR	66.6	31.6	174.6	124.8	59.2	23.5	4.3	0.3
Uzbek SSR	152.2	34.1	282.6	263.8	184.0	114.5	42.5	8.4
Kazakh SSR	95.5	38.9	211.6	162.3	96.1	55.6	18.0	2.8
Georgian SSR	70.0	46.0	193.3	118.8	59.7	25.1	5.4	0.7
Azerbaijan SSR	98.5	17.1	189.1	198.3	118.1	57.0	19.0	3.2
Lithuanian SSR	61.5	19.8	151.9	124.9	67.2	31.6	9.1	0.7
Moldavian SSR	82.0	36.5	207.2	147.4	81.1	33.1	7.9	0.5
Latvian SSR	60.2	38.7	161.6	114.6	59.4	25.6	5.5	0.2
Kirghiz SSR	134.0	39.8	286.2	211.9	140.7	93.4	38.2	7.7
Tajik SSR	170.3	35.0	304.6	291.4	223.8	153.8	68.6	17.3
Armenian SSR	87.2	48.7	215.3	125.1	55.0	20.4	5.0	0.9
Turkmen SSR	149.6	21.4	243.9	281.8	196.7	137.6	58.4	11.1
Estonian SSR	62.8	39.2	170.0	118.2	60.6	25.6	4.9	0.3

6. Deaths among the population from diseases of the circulatory system in 1982 and 1983

Category	Number of deaths in thousands		Number of deaths per 100,000 inhabitants	
	1982	1983	1982	1983
Total deaths from all causes	2723.6	2822.6	1008.6	1035.7
from diseases of the circulatory system	1439.4	1510.8	533.0	554.3
including:				
Arteriosclerotic cardiosclerosis	590.5	622.0	218.7	228.2
Hypertensive disease (all forms)	224.0	225.5	82.9	82.7
including those with:				
Cerebral vascular disease	149.9	148.9	55.5	54.6
Myocardial infarct	9.7	9.9	3.6	3.6
From cerebral vascular disease without hypertensive cardiac disease	311.4	331.3	115.3	121.6
From other forms of ischemic cardiac disease and myocardial infarct (without hypertensive disease)	188.7	199.0	69.9	73.0
including myocardial infarct	63.6	68.8	23.5	25.2
From active and chronic rheumatic heart disease	24.1	24.5	8.9	9.0
From other circulatory diseases	100.7	108.5	37.3	39.8

7. Deaths among the population from malignant neoplasms in 1982 and 1983

Category	Number of deaths in thousands		Number of deaths per 100,000 inhabitants	
	1982	1983	1982	1983
Total deaths from all causes	2723.6	2822.6	1008.6	1035.7
including malignant neoplasms	390.6	403.7	144.7	148.1
of which:				
Oral cavity, lips and throat	7.6	8.3	2.8	3.0
Esophagus	14.6	15.1	5.4	5.5
Stomach	88.9	89.3	32.9	32.8
Small intestine, including duodenum	2.7	2.8	1.0	1.0
Colon (large intestine)	15.3	16.9	5.7	6.2
Caecum, rectosigmoid and anus	19.6	20.3	7.3	7.5
Other digestive organs	34.9	36.3	12.9	13.3
Larynx	7.4	7.6	2.8	2.8
Trachea, bronchi and lungs	74.4	78.4	27.6	28.8
Skin	3.8	4.2	1.4	1.5
Breast	21.9	22.3	8.1	8.2
Cervix	11.7	11.9	4.3	4.4
Other malignant neoplasms of the uterus	8.5	8.6	3.1	3.2
Other and unspecified female sexual organs	12.9	13.4	4.8	4.9
Prostate gland	5.4	5.7	2.0	2.1
Other male sexual organs	1.1	1.1	0.4	0.4
Urinary organs	14.4	14.8	5.3	5.4
Leukemia	12.1	12.7	4.5	4.7
Other neoplasms of the lymphatic and blood producing system	9.2	9.1	3.4	3.3
Other and unspecified localizations	24.2	24.9	9.0	9.1

8. Distribution by age of those married for the first time in 1983 (thousands)

Age group	Number of those married		Including those married for the first time	
	Men	Women	Men	Women
Total of those married by age:	2834.8	2834.8	2313.7	2329.1
Younger than 20	117.4	711.3	117.0	706.7
20-24	1610.0	1305.7	1559.8	1219.5
25-29	567.2	381.2	448.0	255.6
30-34	206.6	166.3	103.0	70.1
35-39	84.1	66.2	27.9	19.5
40-44	68.9	54.3	18.0	12.3
45-49	54.3	47.0	11.8	10.8
50-54	39.9	34.8	8.6	10.3
55-59	32.3	30.9	6.7	10.3
60 and older	54.0	36.8	12.8	13.8
age unknown	0.1	0.3	0.1	0.2

9. Marriages according to age of groom and bride in 1983 (thousands)

age of groom \ age of bride	Total married	By age in years										
		Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60 and older	age unknown
Total married by age in years:	2834.8	711.3	1305.7	381.2	166.3	66.2	54.3	47.0	34.8	30.9	36.8	0.3
under 20	117.4	83.1	31.9	2.2	0.2	0.0	0.0	-	0.0	-	-	0.0
20-24	1610.0	547.1	938.4	109.4	13.1	1.5	0.2	0.1	0.0	0.0	0.0	0.2
25-29	567.2	73.6	278.4	165.7	41.6	6.5	1.0	0.3	0.0	0.0	0.0	0.1
30-34	206.6	6.5	45.5	73.7	59.4	15.9	4.1	1.2	0.2	0.1	0.0	0.0
35-39	84.1	0.7	8.2	19.9	28.7	16.7	6.8	2.5	0.5	0.1	0.0	0.0
40-44	68.9	0.2	2.2	6.8	14.7	14.2	17.4	9.7	2.7	0.8	0.2	0.0
45-49	54.3	0.1	0.7	2.6	6.3	7.9	14.2	14.4	5.8	1.9	0.4	0.0
50-54	39.9	0.0	0.2	0.6	1.5	2.3	6.8	10.7	10.8	5.6	1.4	0.0
55-59	32.3	0.0	0.1	0.2	0.5	0.8	2.7	5.6	8.9	9.7	3.8	0.0
60 and older	54.0	0.0	0.0	0.1	0.3	0.4	1.1	2.5	5.9	12.7	31.0	0.0
age unknown	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0

10. Distribution of registered divorces according to length of the dissolved marriage and age of husband and wife in 1983 (thousands)

	Total registered divorces	Including length of marriage in years						
		less than 1 year	1-2	3-4	5-9	10-19	20 and more	unknown
Total	944.8	30.9	150.5	170.1	276.5	204.8	110.9	1.1
age in years:								
Under 20								
men	1.4	0.4	1.0	-	-	-	-	-
women	13.3	3.5	8.9	0.9	-	-	-	-
20-24								
men	119.1	11.5	59.2	38.9	9.4	-	-	0.1
women	205.6	12.1	75.9	82.5	34.9	-	-	0.2
25-29								
men	254.5	7.6	46.8	82.5	113.0	4.2	-	0.4
women	242.2	6.0	31.3	50.0	138.1	16.5	-	0.3
30-34								
men	202.7	4.1	18.9	24.4	96.6	58.4	-	0.3
women	174.9	3.3	14.6	17.7	60.3	78.8	-	0.2
35-39								
men	105.5	1.9	7.6	8.8	24.4	60.7	2.0	0.1
women	89.0	1.5	6.0	6.6	17.4	53.3	4.2	-
40-44								
men	94.1	1.5	5.6	5.6	13.9	48.8	18.6	0.1
women	82.2	1.2	4.6	4.6	10.9	31.1	29.7	0.1
45-49								
men	70.3	1.1	3.9	3.7	8.0	18.9	34.6	0.1
women	58.4	1.0	3.2	3.0	6.2	13.8	31.1	0.1
50-54								
men	43.1	0.8	2.4	2.2	4.4	6.7	26.6	-
women	35.8	0.7	2.2	1.9	3.6	5.6	21.7	0.1
55-59								
men	26.7	0.6	1.7	1.4	2.7	3.3	17.0	-
women	24.7	0.7	1.6	1.3	2.5	3.2	15.4	-
60 and older								
men	22.7	1.3	2.7	1.7	2.7	2.7	11.6	-
women	15.3	0.8	1.7	1.1	1.6	1.8	8.3	-
Age unknown								
men	4.7	0.1	0.7	0.9	1.4	1.1	0.5	-
women	3.4	0.1	0.5	0.5	1.0	0.7	0.5	0.1

I. Statistical Data on the Capitals of the Union Republics and on Cities with a Population of over one Million Inhabitants

1. Population of the capitals of the union republics and of cities with over one million inhabitants, as of 1 January 1984

City	Thousands of inhabitants	City	thousands of inhabitants
Alma-Ata	1,046	Minsk	1,442
Ashkhabad	346	Moscow[3]	8,537
Baku[3]	1,661	Novosibirsk	1,384
Vilnius	535	Odessa	1,113
Gor'kiy	1,392	Omsk	1,094
Dnepropetrovsk	1,140	Perm'	1,048
Donetsk	1,064	Riga	875
Dushanbe	539	Sverdlovsk	1,286
Erevan	1,114	Tallin	458
Kazan'	1,039	Tashkent	1,986
Kiev	2,409	Tbilisi	1,140
Kishinev	605	Ufa	1,048
Kuybyshev	1,250	Frunze	590
Leningrad[3]	4,827	Khar'kov	1,536
		Chelyabinsk	1,086

2. Births, deaths and natural growth of the population, as well as marriages and divorces, in 1983.

City	Number of births	Number of deaths	Natural Increase	Number of marriages	Number of divorces	Per 1000 members of the population				
						Births	Deaths	Natural increase	Marriages	Divorces
Alma-Ata	18,124	8,871	9,253	12,182	5,705	17.5	8.6	8.9	11.8	5.5
Ashkhabad	7,696	2,776	4,920	3,465	1,418	22.5	8.1	14.4	10.1	4.1
Baku[4]	31,921	12,384	19,537	15,207	3,854	19.4	7.5	11.9	9.2	2.3
Vilnius	8,523	3,640	4,883	6,308	2,124	16.1	6.9	9.2	11.9	4.0
Gor'kiy	19,714	13,916	5,798	13,570	5,395	14.2	10.0	4.2	9.8	3.9
Dnepropetrovsk	17,561	11,279	6,282	13,216	5,513	15.5	9.9	5.6	11.7	4.9
Donetsk	14,568	10,058	4,510	11,910	6,033	13.8	9.5	4.3	11.2	5.7
Dushanbe	11,979	3,864	8,115	5,155	2,318	22.4	7.2	15.2	9.6	4.3
Erevan	21,206	6,343	14,863	9,231	2,064	19.2	5.7	13.5	8.4	1.9
Kazan'	16,675	9,727	6,948	10,017	4,526	16.1	9.4	6.7	9.7	4.4
Kiev	40,722	19,222	21,500	26,637	12,102	17.1	8.1	9.0	11.2	5.1
Kishinev	11,978	3,895	8,083	6,905	2,993	20.2	6.6	13.6	11.7	5.1
Kuybyshev	18,183	12,749	5,434	12,643	6,327	14.6	10.2	4.4	10.1	5.1
Leningrad[4]	69,406	57,646	11,760	56,948	27,572	14.4	12.0	2.4	11.9	5.7
Minsk	29,486	8,088	21,398	14,984	6,140	20.7	5.7	15.0	10.5	4.3
Moscow[4]	123,330	102,220	21,110	92,883	45,123	14.5	12.0	2.5	10.9	5.3
Novosibirsk	23,695	13,571	10,124	15,955	7,881	17.2	9.9	7.3	11.6	5.7
Odessa	14,235	11,085	3,150	12,219	6,112	12.9	10.0	2.9	11.1	5.5
Omsk	20,399	9,215	11,184	13,319	6,126	18.8	8.5	10.3	12.3	5.6
Perm'	17,112	9,718	7,394	10,406	4,087	16.4	9.3	7.1	10.0	3.9
Riga	12,630	9,731	2,899	8,999	5,252	14.5	11.2	3.3	10.3	6.0
Sverdlovsk	21,170	12,100	9,070	13,140	5,736	16.6	9.5	7.1	10.3	4.5
Tallin	7,122	4,687	2,435	5,086	2,525	15.6	10.3	5.3	11.1	5.5
Tashkent	38,082	15,978	22,104	20,249	6,764	19.4	8.1	11.3	10.3	3.4
Tbilisi	17,867	9,249	8,618	11,208	3,317	15.8	8.2	7.6	9.9	2.9
Ufa	17,543	7,914	9,629	9,183	4,479	16.9	7.6	9.3	8.8	4.3
Frunze	10,081	4,355	5,726	6,118	2,327	17.3	7.5	9.8	10.5	4.0
Khar'kov	22,286	15,317	6,969	17,083	7,961	14.6	10.0	4.6	11.2	5.2
Chelyabinsk	18,436	9,636	8,800	11,278	5,343	17.1	8.9	8.2	10.4	4.9

6. General education schools at the beginning of the 1983/84 school year

City	Number of schools	Number of students in thousands	Number of graduates of eight year general education schools in 1983, in thousands	Number of graduates of secondary general education schools in 1983, in thousands
USSR	141,474	44,479	3,973	3,628
including, by city:				
Alma-Ata	176	143	11	11
Ashkhabad	66	58	5	3
Baku	376	281	28	21
Vilnius	83	73	6	5
Gor'kiy	211	169	14	13
Dnepropetrovsk	180	145	13	12
Donetsk	181	131	12	11
Dushanbe	117	99	9	7
Erevan	234	173	15	12
Kazan'	170	128	11	12
Kiev	308	313	25	24
Kishinev	80	76	6	5
Kuybyshev	199	158	13	13
Leningrad	636	518	41	33
Minsk	196	195	16	15
Moscow	1,218	900	74	61
Novosibirsk	229	182	14	13
Odessa	143	133	11	11
Omsk	181	149	11	12
Perm'	160	134	11	10
Riga	136	108	9	8
Sverdlovsk	203	168	13	13
Tallin	77	65	6	5
Tashkent	323	314	29	21
Tbilisi	222	180	15	12
Ufa	149	129	11	12
Frunze	82	78	6	5
Khar'kov	196	191	16	14
Chelyabinsk	173	147	12	11

7. Higher and secondary institutions of vocational education at the beginning of the 1983/84 school year

City	Number of higher education institutions	Number of students, in thousands	Number of graduates of higher education institutions in 1983, in thousands	Number of secondary vocational education institutions	Number of students, in thousands	Number of graduates of secondary vocational educational institutions in 1983, in thousands
USSR	890	5,301.3	849.5	4,438	4,503.0	1,265.6
including, by city:						
Alma-Ata	16	97.4	15.1	19	29.7	8.3
Ashkhabad	7	31.3	4.7	14	18.0	5.3
Baku	13	88.7	15.3	26	39.1	12.4
Vilnius	6	31.3	5.3	15	17.9	5.5
Gor'kiy	10	60.7	9.4	25	37.7	10.4
Dnepropetrovsk	9	61.6	10.2	29	38.8	10.5
Donetsk	5	42.7	7.3	22	29.6	8.8
Dushanbe	8	43.0	6.6	13	16.8	5.6
Erevan	11	48.8	9.4	23	22.5	7.6
Kazan'	11	63.9	10.7	21	26.3	7.8
Kiev	18	150.9	25.9	40	61.9	18.4
Kishinev	6	43.1	6.9	17	22.8	7.1
Kuybyshev	10	64.8	10.4	28	38.0	10.0
Leningrad	41	278.3	41.7	86	100.6	29.1
Minsk	14	97.9	17.4	24	33.6	10.1
Moscow	76	621.6	95.8	141	189.1	52.1
Novosibirsk	14	85.9	13.1	37	37.3	10.1
Odessa	14	82.4	14.3	26	33.5	9.8
Omsk	10	51.7	8.1	29	33.7	10.5
Perm'	7	51.6	8.1	20	23.4	6.6
Riga	7	33.3	5.4	22	25.3	7.2
Sverdlovsk	14	89.8	13.6	34	44.6	12.2
Tallin	4	13.2	2.0	12	12.5	3.4
Tashkent	18	151.2	24.5	36	54.5	14.8
Tbilisi	11	68.1	11.5	25	21.9	6.5
Ufa	7	49.6	7.6	23	31.7	9.7
Frunze	8	48.1	7.3	14	20.7	6.0
Khar'kov	19	122.0	20.1	37	51.7	16.1
Chelyabinsk	7	44.1	7.0	25	30.9	8.6

FOOTNOTES

1. Including children born to mothers of older age.

2. In the determination of relative indices of this age group, the number of women in the 15-19 year old age group is taken conditionally.

3. Including settlements subordinate to the city soviet.

4. Including urban settlements subordinate to the city soviet.

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March 26/85